

EPA ID: GAD059538645 Site Name: UNION CAMP CORP

State ID:

Alias Site Names: UNION CAMP CORP

City: FOREST PARK

County or Parish: CLAYTON

State: GA

Refer to Report Dated: 02/14/2001

Report Type: SITE REASSESSMENT 001

Report Developed by: Other

DECISION:

- ☒ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:
- ☒ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)
- ☐ 1b. Site may qualify for action, but is deferred to:
- ☐ 2. Further Assessment Needed Under CERCLA:
- 2a. Priority: ☐ Higher ☐ Lower
- 2b. Other: (recommended action) NFRAP (No Further Remedial Action Planned)

DISCUSSION/RATIONALE:

This site scores only a 1.7. The primary potential risk was the surface water pathway. Since the file review revealed that the facility has no disposal records for some pre-1980 ink waste products, the worst-case scenario assumption was made that the waste still exists on-site. Even with the worst case assumptions, the site still scores too low to be considered for any further investigation under CERCLA. Report prepared by TN & Associates, Inc.

Site Decision Made by: LEO FRANCENDESE

Signature: _____

Date: 02/27/2001





TN & Associates, Inc.

Engineering and Science

NFRAP
Approved
CPT

March 2, 2001

Ms. Carolyn Thompson
Remedial Project Manager
U.S. Environmental Protection Agency
61 Forsyth Street, SW 11th Floor
Atlanta, GA 30303

Subject: Reassessment Report (final)
Union Camp Corporation
EPA ID No. GAD059538645
EPA Contract No. 68-S4-01-01 (STAT 4)
Task Order No. 0001

Dear Ms. Thompson:

The TN & Associates, Inc. (TN&A) Superfund Technical Assessment Team (STAT) is submitting the revised portion of the final reassessment report for the Union Camp Corporation site in Forrest Park, Clayton County, Georgia. The scoresheets, confidential pages, CERCLA Eligibility form, all references cited, and the original topographic maps have not changed and were submitted to EPA on February 14, 2001.

Please contact me or Greg Kowalski at (678) 355-5550 if you have any questions regarding this report.

Sincerely,

Matt Ellender
STAT Project Manager

Enclosure

CC: Jeff Napier, EPA Contracting Officer (w/o enclosure)
Cindy Gurley, EPA Task Order Project Officer (w/o enclosure)
Stacy Hill, EPA Contract Specialist (w/o enclosure)

MAR 05 2001



CERCLA Eligibility Form

Site Name: Union Camp Corporation

City/County/State: Forest Park, Clayton County, Georgia

EPA ID Number: GAD059538645

Type of Facility: ☒ Generator ☐ Transporter ☐ Disposal
☐ Sm. Qty. Generator ☐ Treatment ☐ Storage(> 90 days)

	Yes	No
Has this facility treated, stored, or disposed of a RCRA hazardous waste since Nov. 19, 1980?	<u>X</u>	<u> </u>

Has a RCRA Facility Assessment (RFA) been performed on this site?	<u>X</u>	<u> </u>
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Does the facility have a RCRA operating or post-closure permit? If so, date issued:	<u> </u>	<u>X</u>
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Did the facility file a RCRA Part A application?	<u>X</u>	<u> </u>
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If so:

- | | | |
|--|---------------|---------------|
| 1) Does the facility currently have interim status? | <u> </u> | <u>X</u> |
| 2) Did the facility withdraw its interim status? | <u>X</u> | <u> </u> |
| 3) Is the facility a known or possible protective filer? | <u> </u> | <u>X</u> |

Is the facility a late (after Nov. 19, 1980) or non-filer that has been identified by EPA or the State?	<u> </u>	<u>X</u>
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Is the site a Federal Facility?	<u> </u>	<u>X</u>
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Is there at least one source on site, which is not covered by CERCLA Petroleum Exclusion Legislation?	<u>X</u>	<u> </u>
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Is the facility owned by an entity that has filed for bankruptcy under Federal or State laws?	<u> </u>	<u>X</u>
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Has the facility lost authorization to operate or had its interim status revoked?	<u> </u>	<u>X</u>
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Has the facility been involved in any other RCRA enforcement action?	<u> </u>	<u>X</u>
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REASSESSMENT REPORT

UNION CAMP CORPORATION
FOREST PARK, CLAYTON COUNTY, GEORGIA

U.S. EPA ID No. GAD059538645

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
61 Forsyth Street
Atlanta, Georgia 30303

Prepared by:

T N & Associates, Inc.
840 Kennesaw Avenue, Suite 7
Marietta, Georgia 30060

Contract No.	:	68-S4-01-01
Task Order No.	:	0001
Date Submitted	:	March 2, 2001
EPA Task Monitor	:	Carolyn Thompson
Telephone No.	:	404-562-8913
Prepared by	:	Gregory J. Kowalski
Telephone No.	:	678-355-5550

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has tasked the T N & Associates, Inc., Superfund Technical Assessment Team (STAT) to perform site reassessments under contract number SB-S4-01-01. Reassessments are conducted to evaluate a site's current Hazardous Ranking System (HRS) status, document what is contained within the site files, update target information, generate a new site score, and summarize all the information in a report submitted to EPA. This Reassessment Report has been prepared in accordance with the scope of work requirements of Task Order No. 0001, for the Union Camp Corporation (Union Camp) site, EPA ID No. GAD059538645, located in Forest Park, Clayton County, Georgia. This Reassessment Report evaluates the Union Camp site and provides a recommendation regarding further action.

2.0 SITE BACKGROUND

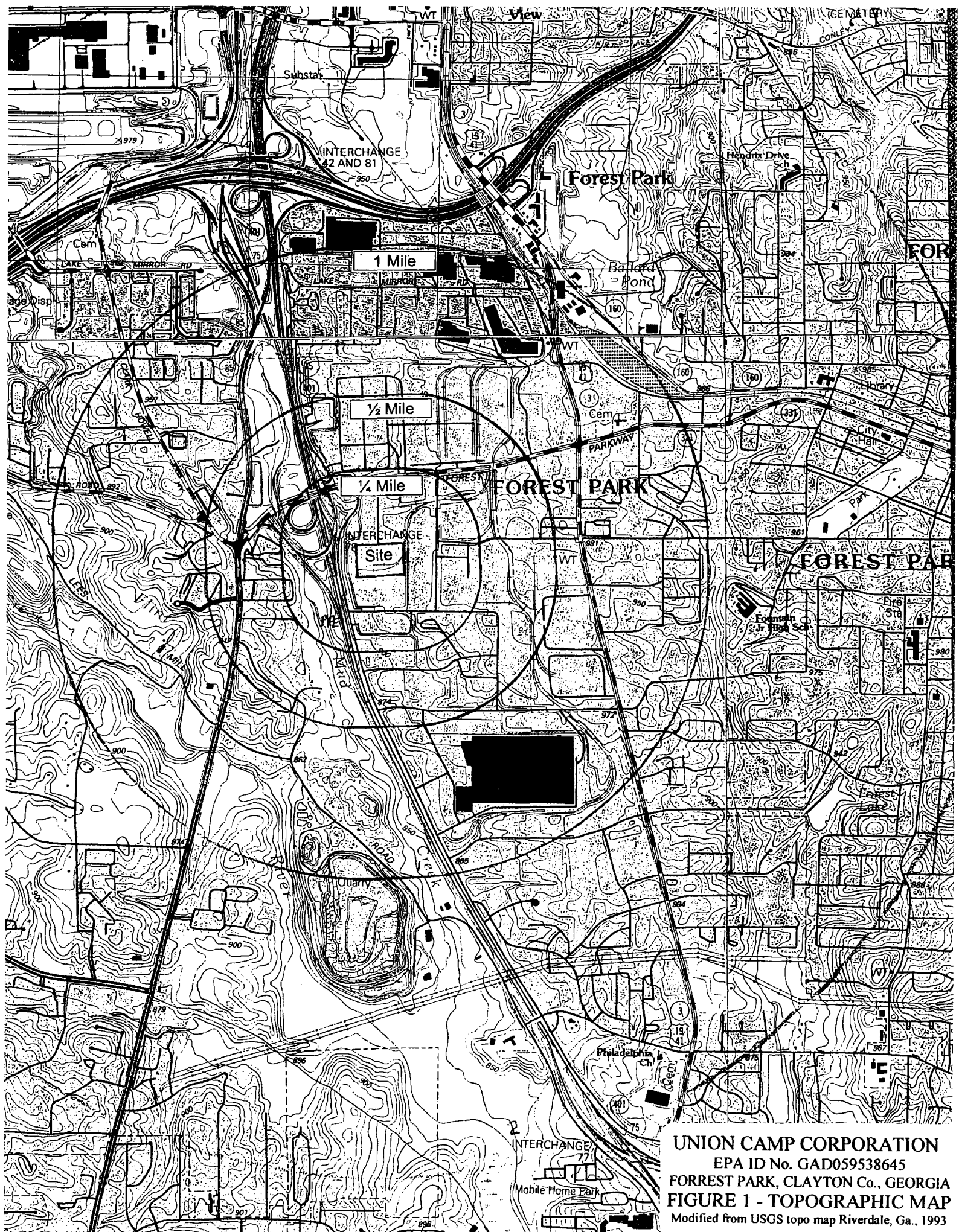
This section describes the site and its present and past operations (including waste disposal practices and regulatory history), the environmental setting and geology, previous investigations, and source areas located at the facility.

2.1 SITE DESCRIPTION

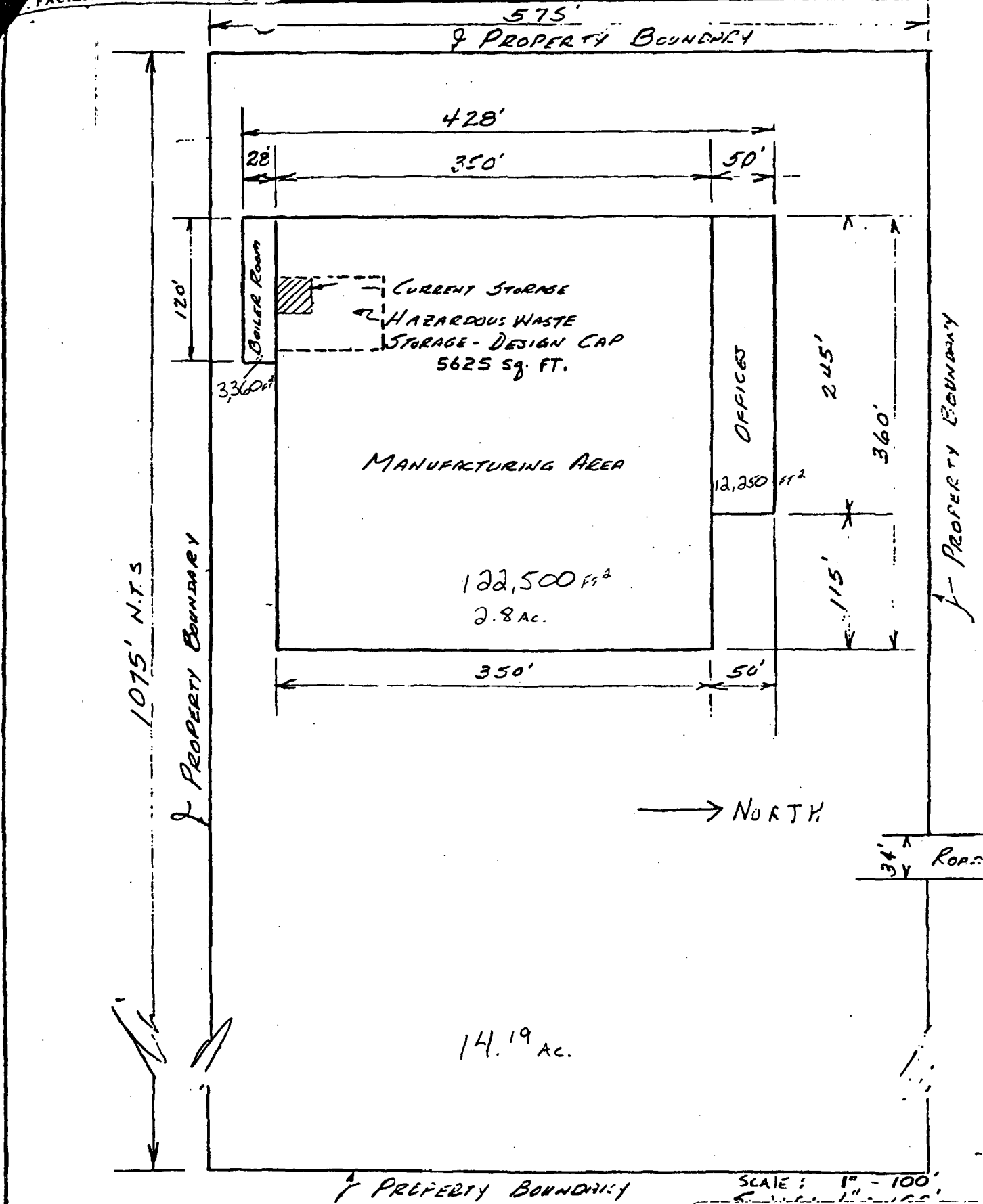
The Union Camp facility is located in an urban industrial park located at 5115 Pine Tree Street in Forest Park, Georgia, a suburb of metro Atlanta (see Figure 1). The geographic coordinates of the facility are 33° 36' 52" north latitude and 84° 23' 45" west longitude (Refs. 1, 2). The predominant on-site features include a manufacturing plant, paved parking lot, and railroad spurs (see Figure 2). The manufacturing plant also houses facility offices to the front and a boiler room to the rear (Ref. 2, p. 1). The overall size of the facility property is 14.19 acres, with approximately 3 acres under roof (Ref. 3, p. 5). The facility is currently owned by International Paper and continues to manufacture corrugated cardboard (Refs. 4; 5, p. 2).

2.1.1 Site History

The Union Camp facility was constructed in 1962 and was owned by Union Camp Corporation located at 1600 Valley Road in Wayne, New Jersey (Ref. 2, p. 13). Union Camp manufactured corrugated containers using a corn starch base adhesive to produce the cardboard. A polyvinyl acetate adhesive was



UNION CAMP CORPORATION
EPA ID No. GAD059538645
FORREST PARK, CLAYTON Co., GEORGIA
FIGURE 1 - TOPOGRAPHIC MAP
Modified from USGS topo map Riverdale, Ga., 1993



then used to assemble the containers. After manufacturing, the containers were transported to the printing operation where the inks were applied. Prior to 1982, the facility used flexographic ink containing chromium and lead in their printing process (Ref. 6). This ink use generated ink wastes that contained Extraction Procedure (EP) toxic levels of chromium (waste code D007) and lead (D008) (Ref. 2, p. 2).

In 1982, Union Camp began using water-based inks that, according to the material data safety sheets, no longer contained chromium and lead. Because the inks were water-based, solvents were no longer required. Waste waters were then discharged into the Clayton County Sewer System with county permission and monitoring (Ref. 2, p. 2).

2.1.2 Regulatory History

As required by law, Union Camp submitted their Resource Conservation and Recovery Act (RCRA) hazardous waste permit in November 1980. This permit identified Union Camp as a “manufacturer of corrugated paperboard packaging” that generated an estimated 750,000 pounds of lead and chromium ink wastes per year (Ref. 3, pp. ii, 3). The RCRA permit also listed three state air permits which were for a water heater, a facility heater, and a cyclone, which removes paper dust from the air (Refs. 3, 7).

As previously stated, Union Camp began using water-based inks that no longer contained chromium and lead in 1982. This change in raw materials usage initiated Union Camp to request withdrawal of their RCRA permit (Ref. 8). On October 7, 1982, the Georgia Department of Natural Resources, Environmental Protection Division (GAEPD) granted Union Camp withdrawal of their Hazardous Waste Facility permit (Ref. 9). A recent search for new or current RCRA permits failed to identify any (Ref. 10). A query of EPA databases identified the facility as a Conditionally Exempt Small Quantity Generator and that a Site Inspection resulted in a “Deferred to RCRA Subtitle C” outcome (Refs. 11, 12). Because the facility is Conditionally Exempt, it is not regulated under RCRA.

2.2 ENVIRONMENTAL SETTING AND GEOLOGY

The climate in Forrest Park (Atlanta airport) is generally mild with an average annual temperature of 61.2°F. Summer temperature highs are about 87°F, while winter temperature lows are about 33°F. January is the coldest month, averaging 41°F, and July is the warmest, averaging 78.7°F. The average annual precipitation is 50.77 inches (Ref. 13). The mean annual lake evaporation in the area is 41 inches

per year, yielding an annual net precipitation of 9.77 inches (Ref. 14, p. 63). The 2-year, 24-hour rainfall event for the area is approximately 4 inches (Ref. 15, p. 95).

The site and surrounding areas are relatively level. The Union Camp facility is located at an elevation of approximately 935 feet above mean sea level (msl). The elevation surrounding the area varies from a high of approximately 1,000 feet above msl, to low areas at 800 feet above msl. (Ref. 1). The facility is located in an urban industrial park in metro Atlanta and is bordered to the west by Interstate 75, to the east by railroad tracks, and to the north and south by other industries (Ref. 16).

The nearest surface water, Mud Creek, is located less than 0.25 mile to the west at an elevation of 860 feet above msl (Ref. 1). Both Mud Creek and the Flint River originate from the south side of Atlanta's Hartsfield Airport, located less than 2 miles northwest of site. From its origin, Mud Creek parallels Interstate 75 to the west until it enters the Flint River. Although Clayton County draws some of its municipal water from surface water intakes on the Flint River, no intakes are located within the 15-mile Target Distance Limit (TDL) (Refs. 1, 17). The entire TDL lies within the Flint River watershed (Ref. 17).

No residential homes are located within 0.5 miles of the Union Camp facility (Refs. 1, 16, 18). An estimated 1,481 residents are located within 1 mile of the facility. The majority of residential populations are located within the 3–4-mile radius ring, which encompasses portions of Forrest Park, Hapeville, College Park, Riverdale, and Morrow (Refs. 1, 18).

Clayton County is located where the Winder Slope and Greenville Slope physiographic provinces converge in the Piedmont geologic region (Ref. 19). The Piedmont is a region of moderate-to-high-grade metamorphic rocks such as schists, gneisses, and igneous rocks such as granite. Isolated granitic plutons also rise above the Piedmont landscape to reveal prominent features such as Stone Mountain (Ref. 20). In Clayton County, granite gneiss dominates throughout most of the county (Ref. 21). Piedmont soils are commonly red due to the khandite-group clays and iron oxides present from the intense weathering of feldspar-rich igneous and metamorphic rock (Ref. 20).

Groundwater in the Piedmont flows along faults and fractures, making it difficult to find but often locally abundant (Ref. 20). The only major hydrogeologic units present in Clayton County are Crystalline-rock aquifers (Ref. 22). Groundwater is transmitted through secondary openings along fractures, foliation, joints, contacts, or other features in the crystalline bedrock consisting of granite, gneiss, schist, and

quartzite. These aquifers are not laterally extensive as the storage is in the regolith and fractures. Because of this, the hydrology of the Crystalline-rock aquifers is not well understood. Wells penetrating into the Crystalline-rock aquifers range from 40–600 feet in depth and yield 1–25 gallons per minute. Surficial aquifers are present throughout Georgia, but in the Piedmont, the surficial aquifers consist of soil, saprolite, stream alluvium, colluvium, and other surficial deposits (Ref. 22).

2.3 PREVIOUS RELEASES AND INVESTIGATIONS

A Preliminary Assessment (PA) was conducted by GAEPD in September 1985, which recommended a low priority for inspection due to a low potential hazard. The potential hazard identified was the lack of records identifying hazardous materials handling prior to 1980 (Ref. 2, pp. 18–23).

On June 12, 1987, the GAEPD Compliance Unit conducted an inspection to investigate an anonymous complaint regarding the alleged “dumping of lead toxic waste via drums on the property.” The inspection did not identify any violations of rules for hazardous waste management (Ref. 2, pp. 2, 9).

GAEPD conducted a second PA on November 20, 1989, as part of the Environmental Priorities Initiative (Ref. 2, p. 4). This event is listed in the CERCLIS database as a Site Inspection (SI), but no samples were collected, and the report is titled as a PA. The PA documented the site history, potential receptors, potential sources, and included a visual site inspection (VSI) with Mr. Tom Mullins of Union Camp (Ref. 2, p.4). The VSI identified the following five solid waste management units (SWMUs) as sources and provided their status:

1. Hazardous Waste Storage Area (concrete floor)	Inactive; closed 1982
2. Cyclone (paper particulate collector)	Active
3. Old cyclone	Inactive; removed 1984
4. Waste oil storage tank (250-gallon above ground)	Active
5. Trash compactor	Active

No further assessments or investigations were documented in the CERCLIS database, and the outcome of the second PA was listed as “deferred to RCRA Subtitle C.” Since Union Camp no longer handles or generates hazardous waste, their RCRA permit has been withdrawn and the facility is no longer regulated under RCRA (Refs. 8, 9, 10).

2.4 SOURCE AREAS

The VSI conducted at the facility identified five SWMUs. Of the five SWMUs previously identified, the only sources that are eligible under the current HRS scenario are listed below with their estimated areas or volumes (Ref. 2, pp. 4-6).

- the former Hazardous Waste Storage Area (5,625 square feet of concrete)
- the 250-gallon waste oil tank

The trash compactor and cyclones have not been documented to receive hazardous wastes and are therefore not considered sources.

According to the RCRA permit, an estimated 750,000 pounds of lead- and chromium-contaminated ink wastes were generated each year until 1982 (Ref. 3, p. 3). No documentation exists in the site files regarding disposal of this waste.

3.0 PATHWAYS

This section discusses the groundwater migration, surface water migration, soil exposure, and air migration pathways. This section also discusses the targets associated with each pathway and draws pathway-specific conclusions.

3.1 GROUNDWATER MIGRATION PATHWAY

The groundwater migration pathway is not a pathway of concern due to the lack of a principal aquifer system in the area and the absence of groundwater receptors. Municipal water is available to the majority of the Clayton County residents and is provided by surface water intakes (Refs. 17, 23). The only permitted groundwater drinking wells identified are located in the southern portion of the county, with the closest located 8 miles south of the facility, outside the 4-mile radius ring (Refs. 1, 23).

3.2 SURFACE WATER PATHWAY

The surface water pathway is the primary pathway of concern. Although no surface water intakes are located within the 15-mile TDL, wetlands and fisheries exist along this pathway. Surface water runoff from the Union Camp facility most likely enters the Atlanta sewer system, but it may also flow into Mud

Creek. For purposes of this report, surface water will be assumed to enter Mud Creek, located 800 feet to the southwest, across I-75 (Ref. 1).

From the facility, Mud Creek flows south 2.5 miles then enters the Flint River. The Flint River continues flowing south where the 15-mile TDL terminates. Because Mud Creek is located near a watershed divide and has a small drainage area of only 4.5 miles, it is considered a small stream. Mud Creek's estimated flow is less than 100 cubic feet per second (cfs) (Refs. 1, 17, 24). The northern portion of the Flint River is also considered a small to moderate creek from its confluence with Mud Creek to its TDL, with an estimated flow of less than 100 cfs in the northern portion and less than 1,000 cfs in the southern portion of the TDL. The first recorded flow data from the Flint River is 1,300 cfs, occurring near Lovejoy, Georgia, located just beyond the 15-mile TDL (Ref. 24).

The Clayton County municipal water system uses five surface water intakes as its water source. Only one intake is located on the Flint River, 18 river miles from the site. One intake is located on Shoal Creek, prior to its confluence with the Flint, and the remaining intakes are located in the South River watershed to the east (Ref. 17).

For the purposes of this report, fishing is assumed to occur in the Flint River and Mud Creek within the 15-mile TDL. Mud Creek is a listed Clean Water Act Section 303(d) Impaired Water for its presence of lead, copper, zinc, and fecal coliform. The potential sources of the Impaired Water classification are listed as urban runoff, urban effects, and industrial facilities (Ref. 25).

Sensitive environments identified along the surface water pathway include 2 miles of eligible wetland frontage in Mud Creek and 8 miles of frontage in the Flint River (Ref. 26). The Gulf Darter (*Etheostoma swaini*) and Florida Floater (*Utterbackia peggyae*) are the only protected animals documented in Clayton County, but they are not listed as federally or state threatened or endangered species in Georgia (Refs. 27, 28). One protected plant, the Pink Ladyslipper (*Cypripedium acaule*), is also listed to occur in Clayton County; however, it is listed only as "Unusual," and not Threatened or Endangered (Ref. 27).

3.3 SOIL EXPOSURE PATHWAY

The soil exposure pathway is of minimal concern at Union Camp. No soil contamination has been documented at Union Camp, the facility is located within an urban industrial park, and all manufacturing activities occur within the manufacturing building. The pathway was evaluated assuming observed contamination on 10 acres of site.

Land use within 4 miles of the site is urban. No residential homes exist within a 0.5-mile radius of the site (Ref. 1). A population of 1,481 persons was determined within a 1-mile radius of the facility, and a total population of 95,234 persons was determined within a 4-mile radius of Union Camp (Ref. 18).

No schools are located within 1 mile of the facility. The Fountain Junior High School and the Hendrix Drive School are located within the 1- to 2-mile radius of the facility (Ref. 1). Five additional schools are located within the 2- to 3-mile radius, and 15 schools are located within the 3- to 4- mile radius (Ref. 1).

3.4 AIR PATHWAY

The air pathway is of minimal concern at Union Camp as no violations have been documented, no evidence exists to suggest any type of threat, and no air samples have been collected to document a release. All manufacturing activities occur indoors, and hazardous materials are no longer handled at the facility (Refs. 2, 8, 9, 10). Due to the large number of potential receptors available to this pathway, the pathway was evaluated. The number of potential receptors for the air pathway was documented as follows: 0–0.25 mile = 0; 0.25–0.5 mile = 0; 0.5–1 mile = 1,481; 1–2 mile = 15,590; 2–3 mile = 33,259; and 3–4 mile = 44,904 (Ref. 18).

4.0 CONCLUSIONS AND RECOMMENDATIONS

The Union Camp facility is currently an active corrugated box manufacturer now owned by International Paper (Refs. 4, 5). No environmental samples have been collected from the facility. GAEPD conducted a PA with VSI in 1989. The PA identified five potential source areas or SWMUs that, when evaluated under current HRS guidelines, were reduced to only two eligible documented sources, a hazardous waste storage area and 250-gallon waste oil tank (Ref. 2, pp. 4, 5). The facility's RCRA permit identified an estimated 750,000 pounds of lead and chromium hazardous ink wastes generated annually (Ref. 3). In 1982, the facility changed to non-hazardous inks and withdrew its RCRA permit (Refs. 8, 9, 10).

Since no threat was determined for the groundwater pathway, only the surface water, soil exposure, and air pathways were evaluated for Union Camp. Although no samples have been collected from the facility, the pathway score was generated using worst-case assumptions of contamination. Due to the limited number of potential receptors, the pathways did not generate elevated scores. Because the site does not generate an appreciable HRS score, even in worst-case scenarios, no further remedial action is recommended at this time for the Union Camp facility.

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CONFIDENTIAL

**HAZARD RANKING SYSTEM SCORE
FOR
UNION CAMP CORPORATION
FORREST PARK, CLAYTON COUNTY, GEORGIA
EPA ID GAD059538645**

A Hazardous Ranking Score has been prepared using the Hazard Ranking System (HRS) score sheets for the Union Camp Corporation site (Union Camp), located in Forrest Park, Clayton County, Georgia. All pathways except the groundwater pathway were evaluated using data obtained from U.S. Environmental Protection Agency (EPA) site files and the Preliminary Assessment (PA) conducted by the Georgia Environmental Protection Division (GAEPD) in 1989. No current site files were available from the GAEPD. The following scores represent a worst-case scenario in areas where data gaps were present. The data gaps are discussed below.

Pathway Scores

Groundwater Pathway Score (S_{GW})	=	0.0
Surface Water Pathway Score (S_{SW})	=	2.6
Soil Exposure Pathway Score (S_{SE})	=	2.12
Air Pathway Score (S_{AIR})	=	0.58

OVERALL SITE SCORE = 1.70

Sources and Waste Characteristics

The site score for Union Camp was based on a Tier B Hazardous Waste Quantity (HWQ) value of 100 for the surface water, soil exposure, and air pathways. The waste quantity was based on multiplying the number of years the facility was in operation using lead- and chromium-based inks (20 years), by the annual estimated volume of hazardous ink wastes generated as reported on the RCRA permit (750,000 pounds per year). Because no documentation exists regarding the disposal of ink wastes, this worst-case waste volume of 15,000,000 pounds was used. Consideration of the other two eligible sources, the 250-gallons waste oil tank and the 5,625 square foot hazardous waste storage area, would have resulted in the same HWQ of 100 for the pathways.

Groundwater Migration Pathway

The groundwater migration (GW) pathway was not evaluated as no targets were identified. All municipal water systems in the Atlanta area utilize surface water intakes as the source of municipal water. Although surface water intakes are located in the Flint River, they are outside of the 15-mile Target Distance Limit (TDL) for the site. The closest groundwater wells identified are located 8 miles south of the facility, outside the 4-mile groundwater target radius.

Surface Water Migration Pathway

The surface water (SW) migration pathway generated the highest pathway score of 2.6. The nearest downgradient surface water to Union Camp is Mud Creek, located 800 feet to the southwest across Interstate 75. From site, Mud Creek flows south 2.5 miles then enters the Flint River. The Flint River continues flowing south where the 15-mile TDL terminates. Mud Creek and the upper portion of the Flint River (above Jester Creek) were considered small streams with flows less than (<) 100 cubic feet per second (cfs). After the confluence with Jester Creek, the Flint River is considered a moderate stream with a flow < 1,000 cfs. Although the Clayton County municipal water system draws some of its water from a surface water intake on the Flint River, the intake is located 17.5 river miles from the site, 2.5 river miles past the 15-mile TDL.

The surface water pathway score was a result of potential contamination to the Food Chain component and environmental component. Although Mud Creek is a listed Clean Water Act Section 303(d) Impaired Water, for its presence of lead, copper, zinc, and fecal coliform; lead only has a bioaccumulation of 50 and does not increase the potential targets value. The other Impaired Water contaminants are not site attributable. The potential sources of the Impaired Water classification are urban runoff, urban effects, and industrial facilities. Mud Creek and the Flint River were considered fisheries resulting in 2 target points each. Other SW targets included the 2 miles of wetlands along Mud Creek and the 8 miles along the Flint River.

Since no environmental samples have been collected, the SW pathway score was based on a Likelihood of Release value (LR) of 500. For the Drinking Water Threat component of the SW pathway, the Target

value (T) was 0, and the Waste Characteristics value (WC) was 32, resulting in a Drinking Water Threat component score of 0.

For the Human Food Chain component of the SW pathway, a Target value (T) of 4 was determined as explained above. A Waste Characteristic (WC) value of 56 was used due to the high toxicity/persistence/bioaccumulation value for lead. These values resulted in a Human Food Chain component score of 1.4.

For the Environmental Threat component of the SW pathway, a Target value (T) of 2 was determined for potential contamination of 2 miles of eligible wetland frontage in Mud Creek, and the 8 miles of frontage in the Flint River. The Waste Characteristic (WC) value of 100 was due to the ecotoxicity/persistence/bioaccumulation value for lead. These values resulted in an Environmental Threat component of 1.2. Adding the three components of the SW pathway together results in the SW pathway score of 2.6.

Soil Exposure Pathway

The soil exposure (SE) pathway was not evaluated due to the absence of documented contaminated soil. Even if all available soil on site (<10 acres) was considered contaminated, a low HWQ of ten would apply, as more than 78 acres of contaminated soil is needed to achieve a 100 HWQ. The facility is located in an urban industrial park and no residents are located within 0.5 mile of the facility. Also, all manufacturing activities are documented to occur within the manufacturing plant.

Air Migration Pathway

The Air (A) pathway was evaluated due to the number of potential targets located within the 4 mile radius of site and resulted in a pathway score of 0.58. All manufacturing occurs indoors, and no air releases have been documented to occur. The Likelihood of Release (LR) value of 500 was used, as it is the default value if an observed release is not documented. The Waste Characteristics (WC) value of 3 was low due to the low air toxicity/mobility values for lead and chromium. A Target (T) value of 31.24 was determined for the potential target residents and a generously estimated 25 acres of wetlands assumed within 1 mile.

No federal- or state-designated threatened or endangered species were identified in the area.

Conclusions

The Union Camp site is a corrugated cardboard container manufacturer located in an urban industrial park in south metro Atlanta. Inks used in manufacturing prior to 1982 contained lead and chromium pigments. According to the RCRA permit, an estimated 750,000 pounds of ink wastes were generated annually, and no documentation of its disposal is available. In 1982, the facility stopped using lead and chromium based inks and withdrew its RCRA Part A Permit. The facility is now classified as a Conditionally Exempt Small Quantity Generator, and is no longer regulated under RCRA. Using worst-case scenarios where data gaps exist a low HRS score was generated.

The 1989 Record of Decision (ROD) deferred the site to RCRA; however, because Union Camp no longer held a RCRA permit, the facility was not regulated by RCRA. A subsequent review of the file material and an updated scoring of the facility failed to generate an appreciable HRS score. Based on the information gathered and the resulting low HRS score, a decision of No Further Remedial Action Planned (NFRAP) is recommended.

GROUNDWATER MIGRATION PATHWAY SCORESHEET

NOT EVALUATED – NO TARGETS

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Release to an Aquifer</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
1. Observed Release	550	_____
2. Potential to Release		_____
2a. Containment	10	_____
2b. Net Precipitation	10	_____
2c. Depth to Aquifer	5	_____
2d. Travel Time	35	_____
2e. Potential to Release	500	_____
3. Likelihood of Release (Higher of lines 1 or 2e)	550	_____

Waste Characteristics

4. Toxicity/Mobility	10,000	_____
5. Hazardous Waste Quantity	1,000,000	_____
6. Waste Characteristics	100	_____

Targets

7. Nearest Well	50	_____
8. Population		_____
8a. Level I Contamination	No Maximum	_____
8b. Level II Concentrations	No Maximum	_____
8c. Potential Contamination	No Maximum	0
8d. Population (Lines 8a+8b+8c)	No Maximum	0
9. Resources	5	0
10. Wellhead Protection Area	20	_____
11. Targets (Lines 7+8d+9+10)	No Maximum	0

Groundwater Migration Score for Crystalline Rock Aquifer

12. Aquifer Score (Lines 3 x 6 x 11 / 82,500)	100	_____
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Groundwater Migration Pathway Score

13. Groundwater Migration Pathway Score (S_{GW}) (Highest value from Line 12 for all aquifers evaluated)	100	N / E
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**SURFACE WATER OVERLAND/FLOOD MIGRATION PATHWAY SCORESHEET
DRINKING WATER THREAT COMPONENT (Part 1 of 3)**

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Release to Surface Water</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
1. Observed Release	550	_____
2. Potential to Release		
2a. Distance to surface water <2500 feet	500	_____ 500
Distance to surface water >2500 feet and:		
2b. Site in annual or 10-year floodplain	500	_____
2c. Site in 100-year floodplain	400	_____
2d. Site in 500-year floodplain	300	_____
2e. Site outside 500-year floodplain	100	_____
3. Likelihood of Release (LR) (Highest value of Lines 1, 2a, 2b, 2c, 2d, or 2e)	550	_____ 500

Waste Characteristics

4. Toxicity/Persistence	10,000	_____ 10,000
5. Hazardous Waste Quantity	1,000,000	_____ 100
6. Waste Characteristics (WC)	1,000	_____ 32

Targets

7. Nearest Intake	50	_____
8. Population		
8a. Level I Concentrations	No Maximum	_____
8b. Level II Concentrations	No Maximum	_____
8c. Potential Contamination	No Maximum	_____
8d. Population (Lines 8a+8b+8c)	No Maximum	_____
9. Resources	5	_____
10. Targets (T) (Lines 8d+9+10)	No Maximum	_____ 0

Surface Water Migration Score for Drinking Water Threat Component

11. Drinking Water Threat Score (Lines 3 x 6 x 10 / 82,500) 500 x 32 x 0 / 82,500 = 0	100	_____ 0
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**SURFACE WATER OVERLAND/FLOOD MIGRATION PATHWAY SCORESHEET
HUMAN FOOD CHAIN THREAT COMPONENT (Part 2 of 3)**

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Release to Surface Water</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
12. Likelihood of Release (LR) (Value from Line 3)	550	<u>500</u>

Waste Characteristics

13. Toxicity/Persistence/Bioaccumulation	5E+12	<u>5E+5</u>
14. Hazardous Waste Quantity	1,000,000	<u>100</u>
15. Waste Characteristics (WC)	1,000	<u>56</u>

Targets

16. Food Chain Individual	50	<u> </u>
17. Population		<u> </u>
17a. Level I Concentrations	No Maximum	<u> </u>
17b. Level II Concentrations	No Maximum	<u> </u>
17c. Potential Human Food Chain Contamination	No Maximum	<u>4</u>
17d. Population (Lines 17a+17b+17c)	No Maximum	<u>4</u>
18. Targets (T) (Lines 16 + 17d)	No Maximum	<u>4</u>

Surface Water Migration Score for Human Food Chain Threat Component

19. Human Food Chain Threat Score (Lines 12 x 15 x 18 / 82,500) 500 x 56 x 4 / 82,500 = 1.4	100	<u>1.4</u>
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**SURFACE WATER OVERLAND/FLOOD MIGRATION PATHWAY SCORESHEET
ENVIRONMENTAL THREAT COMPONENT (Part 3 of 3)**

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Release to Surface Water</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
20. Likelihood of Release (LR) (Value from Line 3)	550	<u>500</u>

Waste Characteristics

21. Ecotoxicity/Persistence/Ecobioaccumulation	5E+12	<u>5E+6</u>
22. Hazardous Waste Quantity	1,000,000	<u>100</u>
23. Waste Characteristics (WC)	1,000	<u>100</u>

Targets

24. Sensitive Environments		
24a. Level I Concentrations	No Maximum	<u> </u>
24b. Level II Concentrations	No Maximum	<u> </u>
24c. Potential Contamination	No Maximum	<u>2</u>
24d. Population Value of Sensitive Environments (Lines 24a+24b+24c)	No Maximum	<u>2</u>
25. Targets (T) (Value from Line 24d)	No Maximum	<u>2</u>

Surface Water Migration Score for Environmental Threat Component

26. Environmental Threat Score (Lines 20 x 23 x 25 / 82,500) 500 x 100 x 2 / 82,500 = 1.2	60	<u>1.2</u>
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Surface Water Migration Score for Overland/Flood Migration Pathway

27. Surface Water Pathway Score (S _{SW}) (Drinking Water Score + Food Chain Score + Environmental Score) 0 + 1.4 + 1.2 = 2.6	100	<u>2.6</u>
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Note: Groundwater to surface water component not evaluated as the local topography prohibits this occurrence.

**SOIL EXPOSURE PATHWAY SCORESHEET
RESIDENT POPULATION COMPONENT (Part 1 of 2)**

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Exposure</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
1. Likelihood of Exposure (LE)	550	<u>550</u>
<u>Waste Characteristics</u>		
2. Toxicity	10,000	<u>10,000</u>
3. Hazardous Waste Quantity	1,000,000	<u>100</u>
4. Waste Characteristics (WC)	1,000	<u>32</u>
<u>Targets</u>		
5. Resident Individual	50	<u> </u>
6. Resident Population		<u> </u>
6a. Level I Concentrations	No Maximum	<u> </u>
6b. Level II Concentrations	No Maximum	<u> </u>
6c. Resident Population (Lines 6a+6b)	No Maximum	<u> </u>
7. Workers	15	<u>10</u>
8. Terrestrial Sensitive Environments	No Maximum	<u> </u>
9. Resources	5	<u> </u>
10. Targets (T) (Lines 5 + 6c + 7 + 8 + 9)	No Maximum	<u>10</u>
<u>Soil Exposure Score for Resident Population Component</u>		
11. Resident Population Score (Lines 1 x 4 x 32 / 82,500) 550 x 32 x 10 / 82,500 = 2.1	100	<u>2.1</u>

**SOIL EXPOSURE PATHWAY SCORESHEET
NEARBY POPULATION COMPONENT (Part 2 of 2)**

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Exposure</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
12. Attractiveness/Accessibility	100	<u>10</u>
13. Area of Contamination	100	<u>80</u>
14. Likelihood of Exposure (LE) (From SI Table 19)	500	<u>50</u>

Waste Characteristics

15. Toxicity	10,000	<u>10,000</u>
16. Hazardous Waste Quantity	1,000,000	<u>100</u>
17. Waste Characteristics (WC)	1,000	<u>32</u>

Targets

18. Nearby Individual	1	<u> </u>
19. Population within 1 mile	2,281	<u>1</u>
20. Targets (T) (Lines 18 + 19)	No Maximum	<u>1</u>

Soil Exposure Score for Nearby Population Component

21. Nearby Population Score (Lines 14 x 17 x 20 / 82,500) $50 \times 32 \times 1 / 82,500 = 0.02$	100	<u>0.02</u>
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Soil Exposure Pathway Score

22. Soil Exposure Pathway Score (S_{SE}) (Resident Population Score + Nearby Population Score) $2.1 + 0.02 = 2.12$	100	<u>2.12</u>
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AIR MIGRATION PATHWAY SCORESHEET

FACTOR CATEGORIES AND FACTORS

<u>Likelihood of Release to Air</u>	<u>Maximum Value</u>	<u>Assigned Value</u>
1. Observed Release	550	_____
2. Potential to Release		
2a. Gas Potential to Release	500	_____
2b. Particulate Potential to Release	500	_____ 500
2c. Potential to Release (Higher value of Lines 2a and 2b)	500	_____ 500
3. Likelihood of Release (LR) (Higher value of Lines 1, or 2)	550	_____ 500

Waste Characteristics

4. Toxicity/Mobility	10,000	_____ 2
5. Hazardous Waste Quantity	1,000,000	_____ 100
6. Waste Characteristics (WC)	100	_____ 3

Targets

7. Nearest Individual	50	_____ 1
8. Population		
8a. Level I Concentrations	No Maximum	_____
8b. Level II Concentrations	No Maximum	_____
8c. Potential Contamination	No Maximum	_____ 30.2
8d. Population (Lines 8a+8b+8c)	No Maximum	_____ 30.2
9. Resources	5	_____
10. Sensitive Environments		
10a. Actual Contamination	No Maximum	_____
10b. Potential Contamination	No Maximum	_____ 0.8
10c. Sensitive Environments Value (Line 10a + 10b)	No Maximum	_____ 0.8
11. Targets (T) (Lines 7 + 8d + 9 + 10c)	No Maximum	_____ 32

Air Migration Pathway Score

12. Air Migration Pathway Score (Lines 3 x 6 x 11 / 82,500) 500 x 3 x 32 / 82,500 = 0.58	100	_____ 0.58
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SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER

GAD059538645

SITE LOCATION					
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE UNION CAMP CORPORATION					
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER 5115 Pine Tree Street					
CITY Forest Park		STATE Georgia		ZIP CODE 30050	TELEPHONE
COORDINATES: LATITUDE and LONGITUDE 33° 36' 52" N., 84° 23' 45" W.		TOWNSHIP, RANGE, AND SECTION			
OWNER/OPERATOR IDENTIFICATION					
OWNER Union Camp (now owned by International Paper)			OPERATOR Union Camp (now owned by International Paper)		
OWNER ADDRESS 1600 Valley Road			OPERATOR ADDRESS 5115 Pine Tree Street		
CITY Wayne			CITY Forest Park, Georgia		
STATE New Jersey	ZIP CODE	TELEPHONE	STATE Georgia	ZIP CODE 30050	TELEPHONE
SITE EVALUATION					
AGENCY/ ORGANIZATION TN & Assoc., Inc. for Region 4 EPA Superfund Technical Assessment Team (STAT) contract					
INVESTIGATOR Gregory J. Kowalski					
CONTACT Matt Ellender					
ADDRESS 840 Kennesaw Ave, Suite 7					
CITY Marietta		STATE Georgia		ZIP CODE 30060	
TELEPHONE 678-355-5550		DATE SUBMITTED March 2001			

References: 1, 2, 4

GENERAL INFORMATION

Site Description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

The Union Camp facility was constructed in 1962 and manufactured corrugated cardboard containers. A corn starch base adhesive was used to produce the cardboard, and a polyvinyl acetate adhesive was used to assemble the containers. After manufacturing, the containers were transported to the printing operation where the inks were applied. Prior to 1982, the facility used Flexographic Ink containing chromium and lead in their printing process (Ref. 6). This ink use generated ink wastes that contained Extraction Procedure (EP) Toxic levels of chromium (D007) and lead (D008) (Ref. 2, p. 2).

In 1982, Union Camp began using water based inks that, according to the material data safety sheets, no longer contained chromium and lead. Waste waters were then discharged into the Clayton County Sewer System with county permission and monitoring (Ref. 2, p. 2).

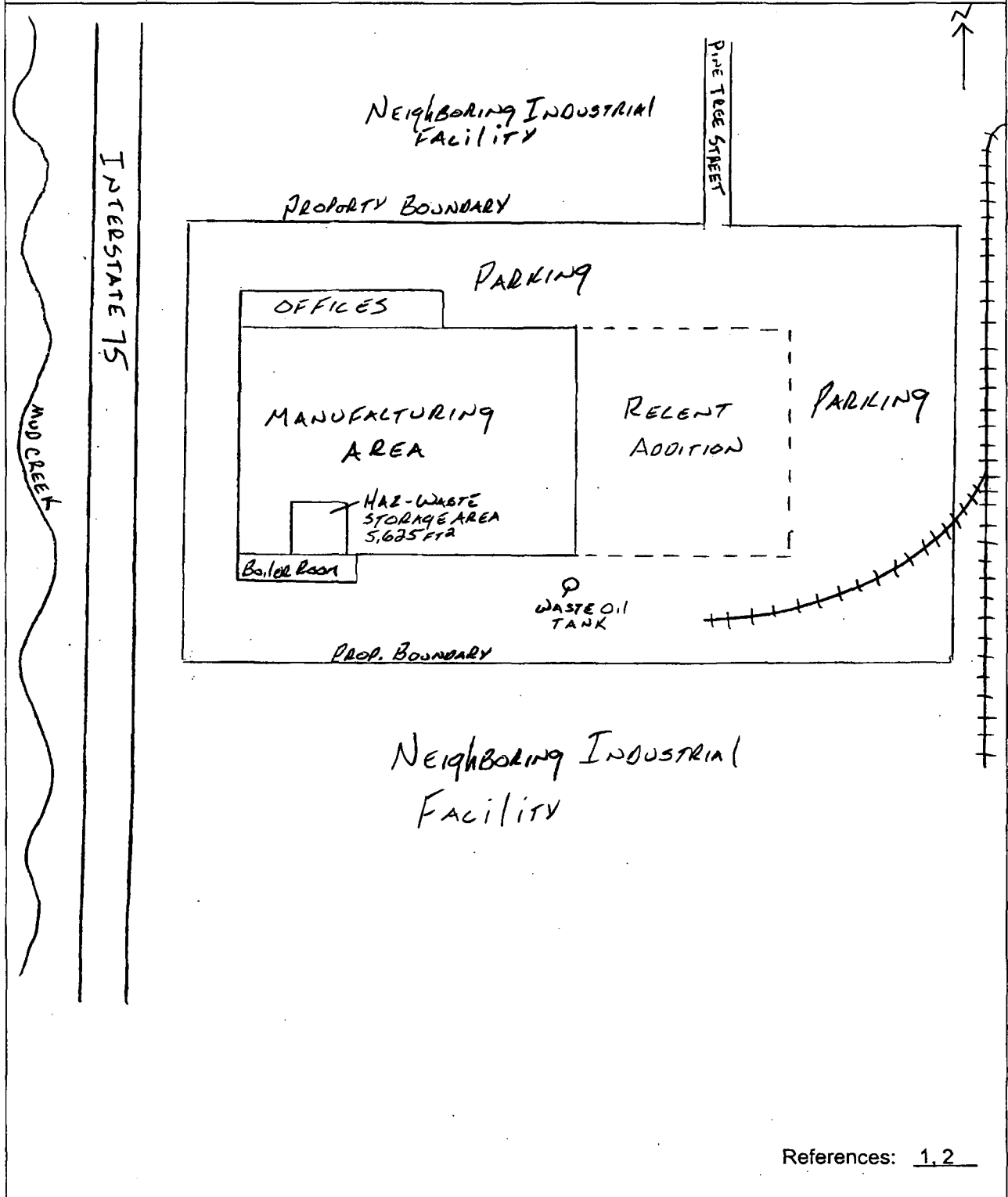
As required by law, Union Camp submitted their RCRA hazardous waste permit in November 1980. This permit identified Union Camp as a "manufacturer of corrugated paperboard packaging," that generated an estimated 750,000 pounds of lead and chromium wastes per year (Ref. 3, pp. ii, 3). The RCRA permit also listed three state air permits which were for a water heater, facility heater, and a cyclone which removes paper dust from the air (Refs. 3, 7).

Because Union Camp began using water based inks that no longer contained chromium and lead in 1982, Union Camp requested withdrawal of their Resource Conservation and Recovery Act (RCRA) permit (Ref. 8). On October 7, 1982, the Georgia Department of Natural Resources, Environmental Protection Division (EPD) granted Union Camp withdrawal of their Hazardous Waste Facility permit (Ref. 9).

A recent search for new or current RCRA permits failed to identify any (Ref. 10). A query of EPA databases identified the facility as a Conditionally Exempt Small Quantity Generator, and that a Site Inspection resulted in a "Deferred to RCRA Subtitle C" outcome. (Refs. 11, 12). Because the facility is Conditionally Exempt, it is not regulated under RCRA.

GENERAL INFORMATION (continued)

Site Sketch: Provide a sketch of the site. Indicate all pertinent features of the site and nearby environments including sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences, fields, drainage patterns, water bodies, vegetation, wells, sensitive environments, and other features.



GENERAL INFORMATION (continued)

Source Descriptions: Describe all sources at the site. Identify source type and relate to waste disposal operations. Provide source dimensions and the best available waste quantity information. Describe the condition of sources and all containment structures. Cite references.

SOURCE TYPES

Landfill: A man-made (by excavation or construction) or natural hole in the ground into which wastes have come to be disposed by backfilling, or by contemporaneous soil deposition with waste disposal.

Surface Impoundment: A natural topographic depression, man-made excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold an accumulation of liquid wastes, wastes containing free liquids, or sludges not backfilled or otherwise covered; depression may be wet with exposed liquid or dry if deposited liquid has evaporated, volatilized or leached; structures that may be described as lagoon, pond, aeration pit, settling pond, tailings pond, sludge pit; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drum: A portable container designed to hold a standard 55-gallon volume of wastes.

Tank and Non-Drum Container: Any device, other than a drum, designed to contain an accumulation of waste that provides structural support and is constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic); any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: An area or volume of soil onto which hazardous substances have been spilled, spread, disposed, or deposited.

Pile: Any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of waste piles are:

Chemical Waste Pile: A pile consisting primarily of discarded chemical products, by-products, radioactive wastes, or used or unused feedstocks.

Scrap Metal or Junk Pile: A pile consisting primarily of scrap metal or discarded durable goods (such as appliances, automobiles, auto parts, batteries, etc.) composed of materials containing hazardous substances.

Tailings Pile: A pile consisting primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation.

Trash Pile: A pile consisting primarily of paper, garbage, or discarded non-durable goods containing hazardous substances.

Land Treatment: Landfarming or other method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: Sources not in categories listed above.

GENERAL INFORMATION (continued)

Source Description: Include description of containment per pathway for groundwater (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

Source : Generated Ink wastes Source Type: Hazardous Wastestream

The RCRA permit identified 750,000 pounds of D007 (chromium) and D008 (lead) ink wastes generated each year (750,000 x 20 years = 15,000,000 pounds). No documentation exists detailing storage or disposal of this waste.

Source : Former hazardous waste storage area (concrete) Source Type: Other

This area stored the ink wastes generated, and consisted of a concrete 5,625 square foot area located within the manufacturing plant.

Source : 250-Gallon Waste Oil tank (above ground) Source Type: Tank

Located south of the facility with a 3-foot concrete block retaining wall, this tank held waste oil for equipment and machinery in the manufacturing plant. Lead and chromium are two common contaminants found in waste oils, along with other heavy metals.

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2). (Show calculation for soil exposure pathway, if divisor is different):

Since no samples have been collected from this facility, the Hazardous Waste Quantity is incomplete and a default value of 10 could be applied. However, due to the potentially large volume of lead and chromium ink wastes generated, the following worst-case HWQ has been determined.

Since the only appreciable threat is the volume of ink wastes generated, this HWQ is the result of a single source calculation of 20 years (1962-1981) x 750,000 pounds = 15,000,000 total pounds.

This volume results in a Tier B HWQ of 100. Evaluation of the other sources under a multiple source site would result in the same HWQ.

HWQ = 100

References: 2, 3

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS
SOURCE SITES (HRS Table 2-5)

(Column 1) TIER	(Column 2) Source Type	Single Source Sites (assigned HWQ scores)				Multiple Site (Color Diviso Assigning WQ V.
		(Column 3) HWQ = 10	(Column 4) HWQ = 100	(Column 5) HWQ = 10,000	(Column 6) HWQ = 100,000	
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs.	>10,000 to 1 million lbs.	>1 million lbs.	lbs
B Hazardous Wastestream Quantity	N/A	≤500,000 lbs	>500,000 to 50 million lbs.	>50 million to 5 billion lbs.	>5 billion lbs	lbs ÷ 1
C Volume	Landfill	≤6.75 million ft ³ ≤250,000 yd ³	>6.75 million to 675 million ft ³ >250,000 to 25 million yd ³	>675 million to 67.5 billion ft ³ >25 million to 2.5 billion yd ³	>67.5 billion ft ³ >2.5 billion yd ³	ft ³ ÷ 67 yd ³ ÷ 2
	Surface impoundment	≤6,750 ft ³ ≤250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³	>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	>67.5 million ft ³ >2.5 million yd ³	ft ³ ÷ 6 yd ³ ÷ 2
	Drums	≤1,000 drums	>1,000 to 100,000 drums	>100,000 to 10 million drums	>10 million drums	Drums
	Tanks and non- drum containers	≤50,000 gallons	>50,000 to 5 million gallons	>5 million to 500 million gallons	>500 million gallons	Gallons
	Contaminated soil	≤6.75 million ft ³ ≤250,000 yd ³	>6.75 million to 675 million ft ³ >250,000 to 25 million yd ³	>675 million to 67.5 billion ft ³ >25 million to 2.5 billion yd ³	>67.5 billion ft ³ >2.5 billion yd ³	ft ³ ÷ 67 yd ³ ÷ 2
	Pile	≤6,750 ft ³ ≤250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³	>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	>67.5 million ft ³ >2.5 million yd ³	ft ³ ÷ 6 yd ³ ÷ 2
	Other	≤6,750 ft ³ ≤250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³	>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	>67.5 million ft ³ >2.5 million yd ³	ft ³ ÷ 6 yd ³ ÷ 2

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS
SOURCE SITES (HRS Table 2-5)

(Column 1) TIER	(Column 2) Source Type	Single Source Sites (assigned HWQ scores)				Multiple Site (Column 7) Divisor Assigning WQ Value
		(Column 3) HWQ = 10	(Column 4) HWQ = 100	(Column 5) HWQ = 10,000	(Column 6) HWQ = 100,000	
D Area	Landfill	≤340,000 ft ² ≤7.8 acres	>340,000 to 34 million ft ² >7.8 to 780 acres	>34 million to 3.4 billion ft ² >780 to 78,000 acres	>3.4 billion ft ² >78,000 acres	ft ² ÷ 340,000 acres ÷ 7.8
	Surface Impoundment	≤1,300 ft ² ≤0.029 acres	>1,300 to 130,000 ft ² >0.029 to 2.9 acres	>130,000 to 13 million ft ² >2.9 to 290 acres	>13 million ft ² >290 acres	ft ² ÷ 1,300 acres ÷ 0.029
	Contaminated soil	≤3.4 million ft ² ≤78 acres	>3.4 million to 340 million ft ² >78 to 7,800 acres	>340 million to 34 billion ft ² >780 to 78,000 acres	>34 billion ft ² >78,000 acres	ft ² ÷ 3.4 million acres ÷ 78
	Pile (Tailings)	≤1,300 ft ² ≤0.029 acres	>1,300 to 130,000 ft ² >0.029 to 2.9 acres	>130,000 to 13 million ft ² >2.9 to 290 acres	>13 million ft ² >290 acres	ft ² ÷ 1,300 acres ÷ 0.029
	Land treatment	≤27,000 ft ² ≤0.62 acres	>27,000 to 2.7 million ft ² >0.62 to 62 acres	>2.7 million to 270 million ft ² >62 to 6,200 acres	>270 million ft ² >6,200 acres	ft ² ÷ 27,000 acres ÷ 0.62

1 ton = 2,000 pounds = 1 cubic yard = 4 drums = 200 gallons

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for groundwater, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate the HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (See HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1 ^a to 100	1 ^b
>100 to 10,000	100
>10,000 to 1 million	10,000
>1 million	1,000,000

^a If the WQ total is between 0 and 1, round it to 1.

^b If the hazardous constituent quantity data are not complete, assign the score of 10.

SI Table 3: Waste Characterization Worksheet

SITE NAME: UNION CAMP CORPORATION

SOURCES:

1 HAZARDOUS INK WASTESTREAM

2

3

REFERENCES:

Preliminary Assessment, RCRA Permit, Superfund C

[illegible]

Ground Water Observed Release Substances Summary Table

On SI Table 4, list the hazardous substances associated with the site detected in groundwater samples for that aquifer. Include only those substances directly observed or with concentrations significantly greater than background levels. Obtain toxicity values from the Superfund Chemical Data Matrix (SCDM). Assign mobility value of 1 for all observed release substances regardless of the aquifer being evaluated. For each substance, multiply the toxicity by the mobility to obtain the toxicity/mobility factor value; enter the highest toxicity/mobility value for the aquifer in the space provided.

Ground Water Actual Contamination Targets Summary Table

If there is an observed release at a drinking water well, enter each hazardous substance meeting the requirements for an observed release by well and sample ID on SI Table 5 and record the detected concentration. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population using the well as a Level I target. IF these percentages are less than 100%, or are all N/A, evaluate the population using the well as a Level II target for that aquifer.

SI TABLE 4: GROUND WATER OBSERVED RELEASE SUBSTANCES (BY AQUIFER)

SAMPLE ID	HAZARDOUS SUBSTANCE	CONCENTRATION	BACKGROUND CONCENTRATION	TOXICITY/ MOBILITY	RE
HIGHEST TOXICITY/ MOBILITY					

SI TABLE 5: GROUND WATER ACTUAL CONTAMINATION TARGETS

Well ID: _____ Level I _____ Level II _____ Population Served _____ Reference _____

SAMPLE ID	HAZARDOUS SUBSTANCE	CONC. (µ/L)	BENCHMARK CONC. (MCL OR MCLG)	% OF BENCHMARK	CANCER RISK CONC.	% OF CANCER RISK CONC.
HIGHEST PERCENT					SUM OF PERCENTS	

Well ID: _____ Level I _____ Level II _____ Population Served _____ Reference _____

SAMPLE ID	HAZARDOUS SUBSTANCE	CONC. (µ/L)	BENCHMARK CONC. (MCL OR MCLG)	% OF BENCHMARK	CANCER RISK CONC.	% OF CANCER RISK CONC.
HIGHEST PERCENT					SUM OF PERCENTS	

**GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION**

Describe Ground Water Use within 4 miles of the Site:

Describe generalized stratigraphy, aquifers, municipal and private wells. References: 17, 19, 20, 21, 22, 23

Clayton County is located where the Winder Slope and Greenville Slope physiographic provinces converge in the Piedmont geologic region (Ref. 19). The Piedmont is a region of moderate-to-high-grade metamorphic rocks such as schists, gneisses, and igneous rocks such as granite. Isolated granitic plutons also rise above the Piedmont landscape to reveal prominent features such as Stone Mountain (Ref. 20). In Clayton County, granite gneiss dominates throughout most of the county (Ref. 21). Piedmont soils are commonly red due to the khandite-group clays and iron oxides present from the intense weathering of feldspar-rich igneous and metamorphic rock (Ref. 20).

Groundwater in the Piedmont flows along faults and fractures, making it difficult to find but often locally abundant (Ref. 20). The only major hydrogeologic units present in Clayton County are Crystalline-rock aquifers (Ref. 22). Groundwater is transmitted through secondary openings along fractures, foliation, joints, contacts, or other features in the crystalline bedrock consisting of granite, gneiss, schist, and quartzite. These aquifers are not laterally extensive as the storage is in the regolith and fractures. Because of this, the hydrology of the Crystalline-rock aquifers is not well understood. Wells penetrating into the Crystalline-rock aquifers range from 40 - 600 feet in depth and yield 1 - 25 gallons per minute. Surficial aquifers are present throughout Georgia; but in the Piedmont, the surficial aquifers consist of soil, saprolite, stream alluvium, colluvium, and other surficial deposits (Ref. 22). All major Metro Atlanta municipal water systems and the Clayton county municipal water system utilize surface water intakes as sources of water (Ref. 17). The closest identified groundwater well is located 8 miles south of the facility (Ref. 23).

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:

Provide apportionment calculations for blended supply systems.

State average number of persons per household: N/A References: 1, 22, 23

Crystalline Rock aquifer

- 0 residents are groundwater targets within the first mile radius.
- 0 residents are groundwater targets within the 1 - 2 mile radius ring.
- 0 residents are groundwater targets within the 2 - 3 mile radius ring.
- 0 residents are groundwater targets within the 3 - 4 mile radius ring.

A total of 0 residents are potential groundwater receptors located within 4 miles of site.

GROUNDWATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	SCORE	REFS
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.		
2. POTENTIAL TO RELEASE: Depth to aquifer: <u>280</u> feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally evaluate potential to release according to HRS Section 3.	340	
LR =	340	

TARGETS

Are any wells part of a blended system? Yes <u> </u> No <u>X</u> If yes, attach a page to show apportionment calculations.		
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: <u> </u> people x 10 = <u> </u> Level II: <u> </u> people x 1 = <u> </u> Total =		
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population scores and multiply by 0.1	0	1, 17, 23
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	0	1, 17, 23
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise, assign 0.		
7. RESOURCES: Assign a score of 5 if one or more ground water resource applies; assign 0 if none applies. <ul style="list-style-type: none"> • Irrigation (5-acre minimum) of commercial food crops or commercial forage crops. • Watering of commercial livestock • Ingredient in commercial food preparation • Supply for commercial aquaculture • Supply for major or designated water recreation area, excluding drinking water use 		
Sum of Targets T =	0	

SI TABLE 6 (FROM HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET

SI TABLE 6a: OTHER THAN KARST AQUIFERS

Distance from Site	Pop.	Nearest Well (Choose Highest)	Populations Served by Wells within Distance Category										
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000
0 to 1/4 mile	0	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,364
>1/4 to 1/2 mile	0	18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,246
>1/2 to 1 mile	0	9	1	5	17	52	167	523	1,669	5,224	16,684	52,239	166,834
>1 to 2 miles	0	5	0.7	3	10	30	94	294	939	2,939	9,385	29,384	93,844
>2 to 3 miles	0	3	0.5	2	7	21	68	212	678	2,122	6,778	21,222	67,777
>3 to 4 miles	0	2	0.3	1	4	13	42	131	417	1,306	4,171	13,060	41,709
Nearest Well =													

SI TABLE 6 (FROM HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET

SI TABLE 6b: KARST AQUIFERS

Distance from Site	Pop.	Nearest Well	Populations Served by Wells within Distance Category										
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000
0 to 1/4 mile	0	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,368
>1/4 to 1/2 mile	0	20	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,246
>1/2 to 1 mile	0	20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,688
>1 to 2 miles	0	20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,688
>2 to 3 miles	0	20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,688
>3 to 4 miles	0	20	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,688
Nearest Well =													

Not used

GROUNDWATER PATHWAY WORKSHEET (CONCLUDED)

LIKELIHOOD OF RELEASE	SCORE	REFS																						
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; <u>if no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to groundwater.</u>																								
9. Assign the highest groundwater toxicity/mobility value from SI Table 3 or 4.																								
10. Multiply the groundwater toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7): $100 \times 100 = 10,000$ <table border="1" data-bbox="317 741 819 1131"> <thead> <tr> <th>Product</th> <th>WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>>0 to <10</td><td>1</td></tr> <tr><td>10 to <100</td><td>2</td></tr> <tr><td>100 to <1,000</td><td>3</td></tr> <tr><td>1,000 to <10,000</td><td>6</td></tr> <tr><td>10,000 to <1E+05</td><td>10</td></tr> <tr><td>1E+05 to <1E+06</td><td>18</td></tr> <tr><td>1E+06 to <1E+07</td><td>32</td></tr> <tr><td>1E+07 to <1E+08</td><td>56</td></tr> <tr><td>1E+08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <100	2	100 to <1,000	3	1,000 to <10,000	6	10,000 to <1E+05	10	1E+05 to <1E+06	18	1E+06 to <1E+07	32	1E+07 to <1E+08	56	1E+08 or greater	100		
Product	WC Score																							
0	0																							
>0 to <10	1																							
10 to <100	2																							
100 to <1,000	3																							
1,000 to <10,000	6																							
10,000 to <1E+05	10																							
1E+05 to <1E+06	18																							
1E+06 to <1E+07	32																							
1E+07 to <1E+08	56																							
1E+08 or greater	100																							
	WC =																							

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the groundwater pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100.

GROUNDWATER PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82,500}$$

NOT EVALUATED AS NO GROUNDWATER TARGETS WERE IDENTIFIED

Max = 100

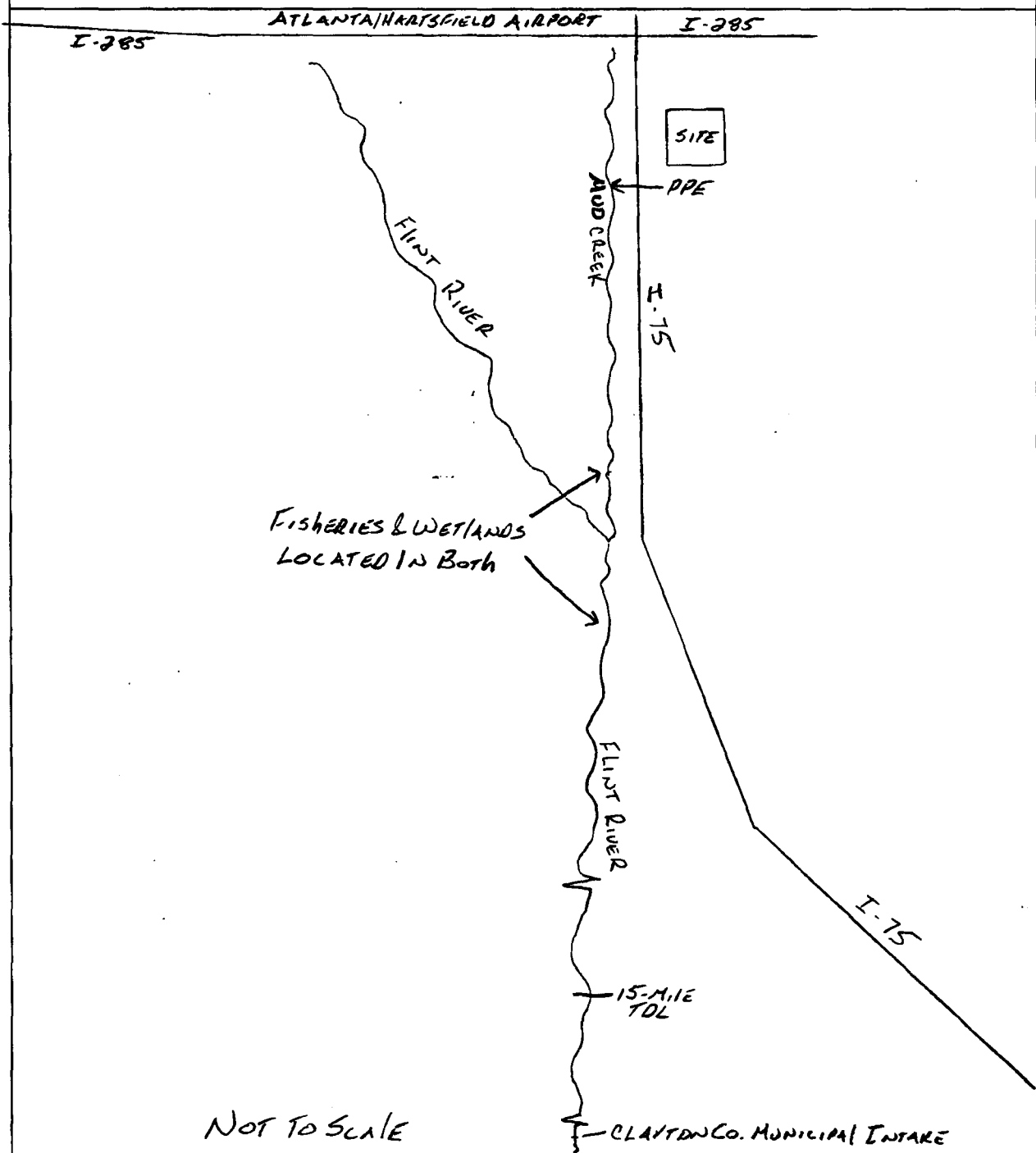
N / E

SURFACE WATER PATHWAY

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Sketch of the Surface Water Migration Route:

Label all surface water bodies. Include runoff route and drainage direction, probable point of entry, and 15-mile target distance limit. Mark sample locations, intakes, fisheries, and sensitive environments. Indicate flow directions, tidal influence, and rate.



SURFACE WATER PATHWAY

Surface Water Observed Release Substances Summary Table

On SI Table 7, list the hazardous substances detected in samples for the watershed, which can be attributed to the site. Include only those substances in observed releases (direct observation) or with concentration levels significantly above background levels. Obtain toxicity, persistence, bioaccumulation potential, and ecotoxicity values from SCDM. Enter the highest toxicity/persistence, toxicity/persistence/bioaccumulation, and ecotoxicity/persistence/ecobioaccumulation values in the spaces provided.

- TP = Toxicity x Persistence
- TPB = TP x Bioaccumulation
- EP = Ecotoxicity x Persistence
- ETPB = EP x Bioaccumulation

Drinking Water Actual Contamination Targets Summary Table

For an observed release at or beyond a drinking water intake, on SI Table 8 enter each hazardous substance by sample ID and the detected concentration. For surface water sediment samples detecting a hazardous substance at or beyond an intake, evaluate the intake as Level II contamination. Obtain benchmark, cancer risk, and reference dose concentrations for each substance from SCDM. For MCL and MCLG benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages of the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the population served by the intake as a Level I target. If the percentages are less than 100%, or all are N/A, evaluate the population served by the intake as a Level II target.

SI TABLE 7: SURFACE WATER OBSERVED RELEASE SUBSTANCES

SAMPLE ID	HAZARDOUS SUBSTANCE	CONCENTRATION	BKG / CONTROL CONCENTRATIONS	TOXICITY/ PERSISTENCE	TOXICITY/PERSIS/ BIOACCUM.	ECOTOXICITY/ PERSIS/ ECOBIOACCUM
HIGHEST VALUES						

SI TABLE 8: SURFACE WATER DRINKING WATER ACTUAL CONTAMINATION TARGETS

Intake ID: _____ Sample Type: _____ Level I _____ Level II _____ Population Served _____ Refer _____

SAMPLE ID	HAZARDOUS SUBSTANCE	CONCENTRATION (µ/L)	BENCHMARK CONC. (MCL OR MCLG)	% OF BENCHMARK	CANCER RISK CONC.	% OF CANC RISK CONC.
			HIGHEST PERCENT		SUM OF PERCENTS	

Intake ID: _____ Sample Type: _____ Level I _____ Level II _____ Population Served _____ Refer _____

SAMPLE ID	HAZARDOUS SUBSTANCE	CONCENTRATION (µ/L)	BENCHMARK CONC. (MCL OR MCLG)	% OF BENCHMARK	CANCER RISK CONC.	% OF CANC RISK CONC.
			HIGHEST PERCENT		SUM OF PERCENTS	

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**TABLE 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET**

<u>FACTOR CATEGORIES AND FACTORS</u>	<u>MAXIMUM VALUE</u>	<u>VALUE ASSIGNED</u>
DRINKING WATER THREAT		
<u>Likelihood of Release</u>		
1. Observed release	550	_____
2. Potential to release by Overland flow		
2a. Containment	10	_____
2b. Runoff	25	_____
2c. Distance to Surface Water	25	_____
2d. Potential to Release by Overland Flow (Lines 2a x [2b + 2c])	500	_____
3. Potential to Release by Flood	500	_____
3a. Containment (Flood)	10	_____
3b. Flood Frequency	50	_____
3c. Potential to Release by Flood (Lines 3a x 3b)	500	_____
4. Potential to Release (Lines 2d + 2c, subject to a maximum of 500)	500	_____
5. Likelihood of Release (Higher of lines 1 and 4)	550	_____

Table 4-2 – Containment Factor Values (see Supplemental Tables - if needed)

**TABLE 4-3
DRAINAGE AREA VALUES**

<u>Drainage Area (acres)</u>	<u>Assigned Value</u>
Less than 50	1
50 to 250	2
>250 to 1,000	3
>1,000	4

**TABLE 4-4
SOIL GROUP DESIGNATIONS**

<u>Surface Soil Description</u>	<u>Soil Group Designation</u>
Coarse-textured soils with high infiltration rates (For example, sands, loamy sands)	A
Medium-textured soils with moderate infiltration rates (For example, sandy loams, loams)	B
Moderately fine-textured soils with low infiltration rates (For example, silty loams, silts, sandy clay loams)	C
Fine-textured soils with very low infiltration rates (For example, clays, sandy clays, silty clay loams, clay loams, silty clays); or impermeable surfaces (For example, pavement)	D

SURFACE WATER PATHWAY **CONFIDENTIAL**
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

**LIKELIHOOD OF RELEASE --
OVERLAND/FLOOD MIGRATION**

SCORE

REFS

<p>1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7</p>														
<p>2. POTENTIAL TO RELEASE: Distance to surface water: <u>800</u> (Feet). If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 5px;">Distance to surface water <2500 feet</td> <td style="padding: 2px 5px;">500</td> </tr> <tr> <td style="padding: 2px 5px;">Distance to surface water >2500 feet, and:</td> <td></td> </tr> <tr> <td style="padding: 2px 5px;">Site in annual or 10-yr floodplain</td> <td style="padding: 2px 5px;">500</td> </tr> <tr> <td style="padding: 2px 5px;">Site in 100-yr floodplain</td> <td style="padding: 2px 5px;">400</td> </tr> <tr> <td style="padding: 2px 5px;">Site in 500-yr floodplain</td> <td style="padding: 2px 5px;">300</td> </tr> <tr> <td style="padding: 2px 5px;">Site outside 500-yr floodplain</td> <td style="padding: 2px 5px;">100</td> </tr> </table> <p>Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2</p>	Distance to surface water <2500 feet	500	Distance to surface water >2500 feet, and:		Site in annual or 10-yr floodplain	500	Site in 100-yr floodplain	400	Site in 500-yr floodplain	300	Site outside 500-yr floodplain	100	500	
Distance to surface water <2500 feet	500													
Distance to surface water >2500 feet, and:														
Site in annual or 10-yr floodplain	500													
Site in 100-yr floodplain	400													
Site in 500-yr floodplain	300													
Site outside 500-yr floodplain	100													
LR =	500													

**LIKELIHOOD OF RELEASE --
GROUNDWATER TO SURFACE WATER MIGRATION**

SCORE

REFS

<p>1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7</p> <p>NOTE: Evaluate groundwater to surface water migration only for a surface water body that meets all of the following conditions:</p> <ol style="list-style-type: none"> 1. A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0. 2. No aquifer discontinuity is established between the source and the above portion of the surface water body. 3. The top of the uppermost aquifer is at or above the bottom of the surface water. <p>Elevation of top of uppermost aquifer: _____</p> <p>Elevation of bottom of surface water body: _____</p>	Not Used	
<p>2. POTENTIAL TO RELEASE: Use the ground water potential to release. Optionally, evaluate surface water potential to release according to HRS Section 3.1.2.</p>		
LR =		

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**SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)**

DRINKING WATER THREAT TARGETS

SCORE

REFS

<p>Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. If there is no water intake within the target distance limit, assign 0 to factors 3, 4, and 5.</p> <table border="1"> <tr> <th>Intake Name</th> <th>Water Body Type</th> <th>Flow</th> <th>People Served</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>				Intake Name	Water Body Type	Flow	People Served					<p>No surface water intakes are located along the 15-mile target distance limit</p>	<p>Refs. 1, 17</p>
Intake Name	Water Body Type	Flow	People Served										
<p>Are any intakes part of a blended system? Yes _____ No If yes, attach a page to show apportionment calculations.</p> <p>3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8).</p> <p>_____</p> <p>Level I: _____ people x 10 = _____ Level II: _____ people x 1 = _____ Total =</p>													
<p>4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site. Assign the population values from SI Table 9. Sum the values and multiply by 0.1.</p>				<p>0</p>	<p>Refs. 1, 17</p>								
<p>5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.</p>				<p>0</p>	<p>Refs. 1, 17</p>								
<p>6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies.</p> <p>Irrigation (5 acre minimum) of commercial food or commercial forage crops Watering of commercial livestock Ingredient in commercial food preparation Major or designated water recreation area, excluding drinking water use</p>				<p>0</p>	<p>Refs. 1, 17</p>								
<p align="right">SUM OF TARGETS T =</p>				<p>0</p>									

SI TABLE 9 (FROM HRS TABLE 4-14): DILUTION-WEIGHTED POPULATION VALUES FOR POTENTIAL CONTAMINANT WATER MIGRATION PATHWAY

Type of Surface Water Body ^b	Pop.	Nearest Intake	Number of People ^a												
			0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000
Minimal Stream (<10 cfs)		20	0	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,460
Small to moderate stream (10 to 100 cfs)		2	0	0.4	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246
Moderate to large stream (>100 to 1,000 cfs)		0	0	0.04	0.2	0.5	2	5	16	52	163	521	1,633	5,214	16,325
Large stream to river (>1,000 to 100,000 cfs)		0	0	0.004	0.02	0.05	0.2	0.5	2	5	16	52	163	521	1,632
Large river (>10,000 to 100,000 cfs)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	5	16	52	163
Very large river (>100,000 cfs)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	0.5	2	5	16
Shallow ocean zone or Great Lake (Depth <20 feet)		0	0	0	0.002	0.005	0.02	0.05	0.2	0.5	2	5	16	52	163
Moderate ocean zone or Great Lake (Depth 20 to 200 feet)		0	0	0	0	0.001	0.002	0.005	0.02	0.05	0.2	0.5	2	5	16
Deep ocean zone or Great Lake (depth >200 feet)		0	0	0	0	0	0.001	0.003	0.008	0.03	0.08	0.3	1	3	8
3-mile mixing zone in quiet flowing river (≥10 cfs)		10	0	2	9	26	82	261	817	2,607	8,163	26,068	81,623	260,680	816,230

Nearest Intake =

^aRound the number of people to nearest integer. Do not round the assigned dilution-weighted population value to nearest integer.

^bTreat each lake as a separate type of water body and assign it a dilution-weighted population value using the surface water body type with the same dilution-weight from Table 4-13 as the coastal tidal water or the ocean zone. If drinking water is withdrawn from coastal tidal water or the ocean, assign a dilution-weighted population value to it using the surface water body type with the same dilution-weight from Table 4-13 as the coastal tidal water or the ocean zone.

Refs. _____

SURFACE WATER PATHWAY

Human Food Chain Actual Contamination Targets Summary Table

On SI Table 10, list the hazardous substances detected in sediment, aqueous, sessile benthic organism tissue, or fish tissue samples (taken from fish caught within the boundaries of the observed release) by sample ID and concentration. Evaluate fisheries within the boundaries of observed release detected by sediment or aqueous samples as Level II, if at least one observed release substance has a bioaccumulation potential factor value of 500 or greater (See SI Table 7). Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For FDAAL benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentage for the substances listed. If benchmark, cancer risk, or reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate this portion of the fishery as subject to Level I concentrations. If the percentages are less than 100% or all are N/A, evaluate the fishery as a Level II target.

Sensitive Environment Actual Contamination Targets Summary Table

On SI Table 11, list each hazardous substance detected in aqueous or sediment samples at or beyond wetlands or a surface water sensitive environment by sample ID. Record the concentration. If contaminated sediments or tissues are detected at or beyond a sensitive environment, evaluate the sensitive environment as Level II. Obtain benchmark concentrations from SCDM. For AWQC/AALAC benchmarks, determine the highest percentage of the benchmark of the substances detected in aqueous samples. If benchmark concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage equals or exceeds 100%, evaluate that part of the sensitive environment subject to Level I concentrations. If the percentage is less than 100%, or all are N/A, evaluate the sensitive environment as Level II.

SURFACE WATER PATHWAY (CONTINUED)

SI TABLE 10: HUMAN FOOD CHAIN ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Fishery ID: _____ Sample Type: _____ Level I _____ Level II _____ References: _____

Sample ID	Hazardous Substance	Concentration	Benchmark Concentration (FDAAL)	% of Benchmark	Cancer Risk Concentration	% of Cancer Risk Concentration	Reference Dose (RfD)
HIGHEST PERCENT					SUM OF PERCENTS		SUM OF PERCENTS

SI TABLE 11: SENSITIVE ENVIRONMENT ACTUAL CONTAMINATION TARGETS FOR WATERSHED

Environment ID: _____ Sample Type: _____ Level I _____ Level II _____ Environment Value: _____

Sample ID	Hazardous Substance	Concentration	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
HIGHEST PERCENT					

Environment ID: _____ Sample Type: _____ Level I _____ Level II _____ Environment Value: _____

Sample ID	Hazardous Substance	Concentration	Benchmark Concentration (AWQC or AALAC)	% of Benchmark	References
HIGHEST PERCENT					

SURFACE WATER PATHWAY (CONTINUED)

CONFIDENTIAL

HUMAN FOOD CHAIN THREAT TARGETS

SCORE

REFS

Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.

Fishery Name Mud creek Water Body Minimal stream Flow <100 cfs

Species Sunfish Production Greater than zero

Species Catfish Production Greater than zero

Fishery Name Upper Flint River Water Body Minimal stream Flow <100 cfs

Species Sunfish Production Greater than zero

Species Catfish Production Greater than zero

Fishery Name Lower Flint River Water Body Moderate stream Flow <1,000 cfs

Species Sunfish Production Greater than zero

Species Catfish Production Greater than zero

FOOD CHAIN INDIVIDUAL

7. ACTUAL CONTAMINATION FISHERIES:

If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign a 45 if there is a Level II fishery, but no Level I fishery.

8. POTENTIAL CONTAMINATION FISHERIES:

If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.

If there is no observed release to the watershed, assign a value for the potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:

LOWEST FLOW	FCI VALUE
< 10 cfs	20
10 to 100 cfs	2
> 100cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

0 *

Ref. 25

2 Mud Crk.

2 Flint Riv.

Ref. 1

FCI VALUE =

4

SUM OF FOOD CHAIN TARGETS T =

4

* Although Mud Creek is a listed CWA Section 303(d) Impaired Water for lead; the Food Chain bioaccumulation value for lead is only 50 in fresh water.

**SURFACE WATER PATHWAY (CONTINUED)
ENVIRONMENTAL THREAT WORKSHEET**

CONFIDENTIAL

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS

SCORE

REFS

Record the water body type and flow for each surface water sensitive environment within the target distance (See SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.																																											
Environment Name		Water Body Type		Flow																																							
<u>Mud Creek</u>		<u>Small stream</u>		<u>< 100 cfs</u>																																							
<u>Upper Flint River</u>		<u>Small stream</u>		<u>< 100 cfs</u>																																							
<u>Lower Flint River</u>		<u>Moderate stream</u>		<u>< 1,000 cfs</u>																																							
<p>9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).</p> <table border="1"> <thead> <tr> <th>Environment Name</th> <th>Environment Type (SI Tables 13 & 14)</th> <th>Environment Value</th> <th>Multiplier 10 for level I 1 for Level II</th> <th>Product</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr> <td align="right" colspan="5">Sum =</td> </tr> </tbody> </table>						Environment Name	Environment Type (SI Tables 13 & 14)	Environment Value	Multiplier 10 for level I 1 for Level II	Product																Sum =																	
Environment Name	Environment Type (SI Tables 13 & 14)	Environment Value	Multiplier 10 for level I 1 for Level II	Product																																							
Sum =																																											
<p>10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:</p> <table border="1"> <thead> <tr> <th>Flow</th> <th>Dilution Weight (SI Table 12)</th> <th>Environment Type (SI Tables 13 & 14)</th> <th>Environment Value</th> <th>Potential Contaminant Multiplier</th> <th>Product</th> </tr> </thead> <tbody> <tr> <td><100 cfs</td> <td>0.1</td> <td>2 Miles of Wetlands in Mud Creek</td> <td>50</td> <td>0.1</td> <td>0.5</td> </tr> <tr> <td><100 cfs</td> <td>0.1</td> <td>8 Miles of Wetlands in Upper Flint River</td> <td>150</td> <td>0.1</td> <td>1.5</td> </tr> <tr> <td>cfs</td> <td> </td> <td> </td> <td> </td> <td>0.1</td> <td> </td> </tr> <tr> <td>cfs</td> <td> </td> <td> </td> <td> </td> <td>0.1</td> <td> </td> </tr> <tr> <td align="right" colspan="6">Sum =</td> </tr> </tbody> </table>						Flow	Dilution Weight (SI Table 12)	Environment Type (SI Tables 13 & 14)	Environment Value	Potential Contaminant Multiplier	Product	<100 cfs	0.1	2 Miles of Wetlands in Mud Creek	50	0.1	0.5	<100 cfs	0.1	8 Miles of Wetlands in Upper Flint River	150	0.1	1.5	cfs				0.1		cfs				0.1		Sum =						2	
Flow	Dilution Weight (SI Table 12)	Environment Type (SI Tables 13 & 14)	Environment Value	Potential Contaminant Multiplier	Product																																						
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cfs				0.1																																							
cfs				0.1																																							
Sum =																																											
SUM OF ENVIRONMENT TARGETS T =						2																																					

**SI TABLE 12 (HRS TABLE 4-13):
SURFACE WATER DILUTION WEIGHTS**

TYPE OF SURFACE WATER BODY		ASSIGNED DILUTION WEIGHT
DESCRIPTOR	FLOW CHARACTERISTICS	
Minimal stream	<10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	>100 to 1,000 cfs	0.01
Large stream to river	>1,000 to 10,000 cfs	0.001
Large river	>10,000 to 100,000 cfs	0.0001
Very large river	>100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.0001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.0001
Moderate depth ocean or Great Lake	Flow not applicable; depth 20 to 200 feet	0.00001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

**SI TABLE 13 (HRS TABLE 4-23):
SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES**

SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

**SI TABLE 14 (HRS TABLE 4-24):
SURFACE WATER WETLANDS FRONTAGE VALUES**

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

**SURFACE WATER PATHWAY (CONCLUDED)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY**

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**SURFACE WATER PATHWAY (CONCLUDED)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY**

WASTE CHARACTERISTICS				SCORE
14. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.				100
15. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water hazardous waste quantity score and determine the waste characteristics score for each threat.				
	Substance Value X	HWQ =	Product	WC Score from Table below
Drinking Water Threat Toxicity/Persistence	10,000	100	1E + 6	max = 100 32
Food Chain Threat Toxicity/Persistence/Bioaccumulation	500,000	100	5 E + 7	56
Environmental Threat Ecotoxicity/Persistence/Ecobioaccumulation	5E + 6	100	5 E + 8	100
PRODUCT	WC SCORE			
0	0			
>0 to <10	1			
10 to <100	2			
100 to <1,000	3			
1,000 to <10,000	6			
10,000 to <1E + 05	10			
1E + 05 to <1E + 06	18			
1E + 06 to <1E + 07	32			
1E + 07 to <1E + 08	56			
1E + 08 to <1E + 09	100			
1E + 09 to <1E + 10	180			
1E + 10 to <1E + 11	320			
1E + 11 to <1E + 12	560			
1E + 12 or greater	1,000			

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score <u>LR x T x WC</u> 82,500
Drinking Water	500	0	32	(max = 100) 0
Human Food Chain	500	4	56	(max = 100) 1.4
Environmental	500	2	100	(max = 60) 1.2
SURFACE WATER PATHWAY SCORE (DRINKING WATER THREAT + HUMAN FOOD CHAIN THREAT + ENVIRONMENTAL THREAT)				(max = 100) 2.6

SOIL EXPOSURE PATHWAY

If there is no observed contamination (e.g, ground water plume with no known surface source), do not evaluate the soil exposure pathway. Discuss evidence for no soil exposure pathway.

Soil Exposure Resident Population Targets Summary

For each property (duplicate page 35 as necessary):

If there is an area of observed contamination on the property and within 200 feet of a residence, school, or day care center, enter on Table 15 each hazardous substance by sample ID. Record the detected concentration. Obtain cancer risk, and reference dose concentrations from SCDM. Sum the cancer risk and reference dose percentages for the substance, enter N/A for the percentage. If the percentage sum calculated for cancer risk or reference dose equals or exceeds 100%, evaluate the residents and students as Level I. If both percentages are less than 100% or all are N/A, evaluate the targets as Level II.

SI TABLE 15: SOIL EXPOSURE RESIDENT POPULATION TARGETS

Residence ID: _____ Level I _____ Level II _____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	%Cancer RiskConc	RID	% of RID	Toxicity Value	Reference
HIGHEST PERCENT					SUM OF PERCENTS		SUM OF PERCENTS	

Residence ID: _____ Level I _____ Level II _____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	%Cancer RiskConc	RID	% of RID	Toxicity Value	Reference
HIGHEST PERCENT					SUM OF PERCENTS		SUM OF PERCENTS	

Residence ID: _____ Level I _____ Level II _____ Population _____

Sample ID	Hazardous Substance	Conc. (mg/kg)	Cancer Risk Concentration	%Cancer RiskConc	RID	% of RID	Toxicity Value	Reference
HIGHEST PERCENT					SUM OF PERCENTS		SUM OF PERCENTS	

SOIL EXPOSURE PATHWAY WORKSHEET RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE

	SCORE	DATA TYPE	REFS
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil pathway score of 0.	550	Est. ¹	
LE =	550		

TARGETS

<p>2. RESIDENT POPULATION: Determine number of people living or attending school or daycare on a property with an area of observed contamination and whose residence, school, or day care center, respectively is on or within 200 feet of the area of observed contamination.</p> <p style="margin-left: 40px;">Level I: _____ people x 10 = _____</p> <p style="margin-left: 40px;">Level II: _____ people x 1 = _____ Sum= _____</p>															
<p>3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. IF no resident population exists (i.e. no Level I or Level II targets), assign 0 (HRS Section 5.1.3).</p>															
<p>4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities with areas of observed contamination associated with the site.</p> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 40%;">Number of Workers</th> <th style="width: 20%;">Score</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>1 to 100</td> <td>5</td> </tr> <tr> <td>101 to 1,000</td> <td>10</td> </tr> <tr> <td>> 1,000</td> <td>15</td> </tr> </tbody> </table>	Number of Workers	Score	0	0	1 to 100	5	101 to 1,000	10	> 1,000	15	10	Est ²			
Number of Workers	Score														
0	0														
1 to 100	5														
101 to 1,000	10														
> 1,000	15														
<p>5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination.</p> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 40%;">Terrestrial Sensitive Environment Type</th> <th style="width: 20%;">Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Terrestrial Sensitive Environment Type	Value													
Terrestrial Sensitive Environment Type	Value														
<p>6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site: assign 0 if none applies.</p> <p>ξ Commercial agriculture</p> <p>ξ Commercial silvaculture</p> <p>ξ Commercial livestock production or commercial livestock grazing</p>															
Total of Targets T =	10														

¹ An estimate of 10 acres of contaminated soil was used to simulate a worst-case scenario and score the pathway.

² An estimate of 101-1,000 employees was used to simulate a worst-case scenario and score the pathway.

**SI TABLE 16 (HRS TABLE 5-5): SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES**

TERRESTRIAL SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Terrestrial critical habitat for Federal designated and endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

SOIL EXPOSURE PATHWAY WORKSHEET NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE	SCORE	DATA TYPE	REF
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6) Value: <u>10</u> Area of Contamination (from SI Table 18 or HRS Table 5-7) Value: <u>80</u> Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)	50	Est. ³	
LE =	50		

Note: if there is no area of observed contamination: LE = 0.

³ A worst-case scenario of ten contaminated acres was used (no samples have been collected from site).

TARGETS	SCORE	DATA TYPE	REF
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.			
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (i.e. properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.	1		1, 18
T =	1		

**S1 TABLE 17 (HRS TABLE 5-6)
ATTRACTIVENESS/ACCESSIBILITY VALUES**

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements-for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

**TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR
VALUES**

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375, 000	60
>375,000 to 500,000	80
>500,000	100

S1 TABLE 19 (HRS TABLE 5-8): NEARBY POPULATION LIKELIHOOD OF EXPOSURE FACTOR VALUES

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE					
	100	75	50	25	10	
100	500	500	375	250	125	
80	500	375	250	125	50	
60	375	250	125	50	25	
40	250	125	50	25	5	
20	125	50	25	5	5	
5	50	25	5	5	5	

SI TABLE 20 (HRS TABLE 5-10): DISTANCE WEIGHTED POPULATION VALUES FOR NEARBY POPULATION THREAT

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category									
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000
Greater than 0 to 1/4	0	0	0.1	0.4	1.0	4	13	41	130	408	1,303
Greater than 1/4 to 1/2	0	0	0.05	0.2	0.7	2	7	20	65	204	652
Greater than 1/2 to 1	1,481	0	0.02	0.1	0.3	1	3	10	33	102	326

Reference(s): 1,18

SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure (HRS Section 5.1.2.2 and HRS Table 5-2).		100
11. Assign the highest toxicity value for the soil exposure pathway (SI Table 3 or 15). Lead and Chromium		10,000
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: $100 \times 10,000 = 1E + 6$		32
Product	WC Score	
0	0	
>0 to < 10	1	
10 to <100	2	
100 to < 1,000	3	
1,000 to <10,000	6	
10,000 to < 1E + 05	10	
1E + 05 to < 1E + 06	18	
1E + 06 to < 1E + 07	32	
1E + 07 to < 1E + 08	56	
1E + 08 or greater	100	

RESIDENT POPULATION THREAT SCORE:

Likelihood of Exposure, Question 1;
(Targets = Sum of Questions 2,3,4,5,6)
 $550 \times 10 \times 32 / 82,500 = 2.1$

$$\frac{LE \times T \times WC}{82,500}$$

2.1

NEARBY POPULATION THREAT SCORE:

Likelihood of Exposure, Question 7;
(Targets = Sum of Questions 8,9)
 $50 \times 1 \times 32 / 82,500 = 0.02$

$$\frac{LE \times T \times WC}{82,500}$$

0.02

SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

(Maximum of 100)

2.12

AIR PATHWAY

Air Pathway observed Substances Summary Table

On SI Table 21, list the hazardous substances detected in air samples of a release from the site. Include only those substances with concentrations significantly greater than background levels. Obtain benchmark, cancer risk, and reference dose concentrations from SCDM. For NAAQS/NESHAPS benchmarks, determine the highest percentage of benchmark obtained for any substance. For cancer risk and reference dose, sum the percentages for the substances listed. If benchmark, cancer risk or, reference dose concentrations are not available for a particular substance, enter N/A for the percentage. If the highest benchmark percentage or the percentage sum calculated from which the sample was taken and any closer distance categories as Level I. If the percentages are less than 100% or all are N/A, evaluate targets in that distance category and any closer distance categories that are not Level I as Level II.

TABLE 21: AIR PATHWAY OBSERVED RELEASE SUBSTANCES

Sample ID:	Level I		Level II		Distance from Sources(mi)		Reference
Hazardous Substance	Conc. ($\mu\text{g}/\text{m}^3$)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents

Sample ID:	Level I		Level II		Distance from Sources(mi)		Reference
Hazardous Substance	Conc. ($\mu\text{g}/\text{m}^3$)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents

Sample ID:	Level I		Level II		Distance from Sources(mi)		Reference
Hazardous Substance	Conc. ($\mu\text{g}/\text{m}^3$)	Gaseous Particulate	Benchmark Conc. (NAAQS or NESHAPS)	% of Benchmark	Cancer Risk Conc.	% of Cancer Risk Conc.	RID
	Highest Toxicity/ Mobility		Highest Percent		Sum of Percents		Sum of Percents

AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	SCORE	DATA TYPE	REFS
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.			
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign as score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2).	500		
LR =	500		

TARGETS

3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air. a) Level I: _____ people x 10 = _____ b) Level II: _____ people x 1 = _____ Total =			
4. POTENTIAL TARGET POPULATION: Determine the number people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.	30.2		Ref. 18
5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.	1		Ref. 18
6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.			
Sensitive Environment Type	Value		
Wetland Acreage	Value		
7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.	0.8		Ref. 26
8. RESOURCES: Assign a score of 5 if one or more air resources apply within 1/2 mile of a source; assign a 0 if none applies. ξ Commercial agriculture ξ Commercial silviculture ξ Major or designated recreation area			
SUM OF TARGETS T=	32		

SI TABLE 22 (FROM HRS TABLE 6-17): VALUES FOR POTENTIAL CONTAMINATION AIR TARGET POPULATION

Distance From Site	Pop.	Nearest Individual (choose highest)	Number of People within the Distance category										
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000
On a source	0	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,368
0 to ¼ mile	0	*	1	4	13	41	131	408	1,304	4,081	13,034	40,812	130,341
>¼ to ½ mile	0	2	0.2	0.9	3	9	28	88	282	822	2,815	8,815	28,151
>½ to 1 mile	1,481	1	0.06	0.3	0.9	3	8	26	83	261	834	2,612	8,342
>1 to 2 miles	15,590	0	0.02	0.09	0.3	0.8	3	8	27	83	266	833	2,659
>2 to 3 miles	33,259	0	0.009	0.04	0.1	0.4	1	4	12	38	120	375	1,195
>3 to 4 miles	44,904	0	0.005	0.02	0.07	0.2	0.7	2	7	28	73	229	730

Nearest Individual = 1

* Score = 20 if the Nearest Individual is within 1/8 mile of a source; score = 7 if the Nearest Individual is between 1/8 and 1/4 mile

References 1, 18

**SI TABLE 23 (HRS TABLE 6-18): AIR PATHWAY
VALUES FOR WETLAND AREA**

Wetland Area	Assigned Value
<1 acre	0
1 to 50 acres	25
>50 to 100 acres	75
>100 to 150 acres	125
>150 to 200 acres	175
>200 to 300 acres	250
>300 to 400 acres	350
>400 to 500 acres	450
>500 acres	500

**SI TABLE 24: DISTANCE WEIGHTS AND CALCULATIONS FOR
AIR PATHWAY POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS**

Distance	Distance Weight	Sensitive Environment Type and Value (from SI Table 13 and 23)	Product
On a source	0.10	x	
		x	
0 to ¼ mile	0.025	x 25 (1-50 Acres of Wetlands)	0.625
		x	
¼ to ½ mile	0.0054	x 25 (1-50 Acres of Wetlands)	0.135
		x	
½ to 1 mile	0.0016	x 25 (1-50 Acres of Wetlands)	0.040
		x	
1 to 2 miles	0.0005	x see footnote below	
		x	
2 to 3 miles	0.00023	x	
		x	
3 to 4 miles	0.00014	x	
		x	
>4 miles	0	x	
Total Environments Score =			0.8

A worst-case total acreage area of 1 - 50 acres was used in the first three distances to account for the wetland acreage within the 4-mile radius. Further evaluation of more distant acres would not significantly increase the score as the Distance Weight multiplier continues to diminish.

AIR PATHWAY (concluded)

WASTE CHARACTERISTICS

9. If any Actual Contamination Targets exist for the air pathway assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are not Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.	100	
10. Assign the highest air toxicity/mobility value from SI Table 3 or 21	2	
11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: Lead and Chromium $100 \times 2 = 200$	WC = 3	
Product		WC Score
0		0
>0 to < 10		1
10 to <100		2
100 to <1,000		3
1,000 to 10,000		6
10,000 to 1E + 05		10
1E + 05 to < 1E + 06		18
1E + 06 to < 1E + 07		32
1E + 07 to < 1E + 08		56
1E + 08 or greater		100

AIR PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$

(maximum of 100)

0.58

$$500 \times 32 \times 3 / 82,500$$

0.58

CONFIDENTIAL

SITE SCORE CALCULATION	S	S ²
GROUND WATER PATHWAY SCORE (S _{GW})	0	0
SURFACE WATER PATHWAY SCORE (S _{SW})	2.6	6.76
SOIL EXPOSURE (S _S)	2.12	4.494
AIR PATHWAY SCORE (S _A)	0.58	0.336
Summed Value =	11.59	
SITE SCORE $\sqrt{\frac{S_{GW}^2 + S_{SW}^2 + S_S^2 + S_A^2}{4}}$	1.70	

COMMENTS

$$\text{SITE SCORE} = \sqrt{\frac{0 + 6.76 + 4.494 + 0.336}{4}}$$

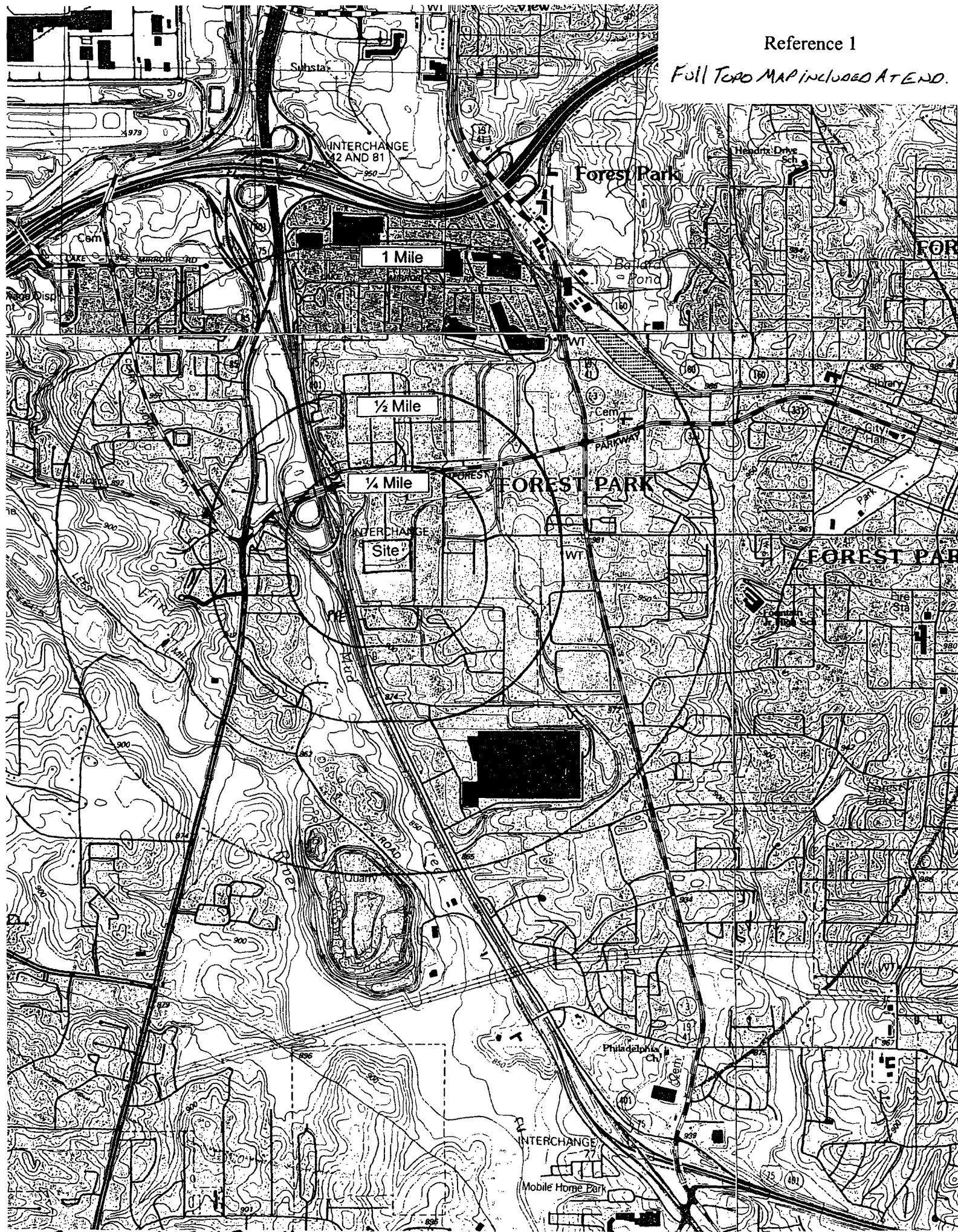
$$\text{SITE SCORE} = \sqrt{\frac{11.59}{4}}$$

$$\text{SITE SCORE} = \sqrt{2.8975}$$

$$\text{SITE SCORE} = 1.70$$

Reference 1

Full Topo Map Included At End.



REFERENCE 1 - Full Topo Map Included

Reference 2

**ENVIRONMENTAL PRIORITIES INITIATIVE
PRELIMINARY ASSESSMENT/RCRA FACILITY ASSESSMENT OF**

**UNION CAMP CORPORATION
FOREST PARK, GEORGIA
EPA ID # GAD059538645**

1505

NFRAP
8/15/90

DECEMBER 4, 1989

**Prepared by:
Susan Eason**

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NARRATIVE SUMMARY
UNION CAMP CORPORATION
5115 PINE TREE STREET
FOREST PARK, GEORGIA

Union Camp Corporation is located at 5115 Pine Tree Street, Forest Park, Clayton County, Georgia. The facility manufactures corrugated containers. Before 1982, the facility generated hazardous waste in their printing operation which used D007 (Chromium) and D008 (Lead) EP Toxic Flexographic inks.

A Part A Application for Hazardous Waste Facility Permit dated November 12, 1980 was submitted to U.S. EPA Region IV by Union Camp Corporation. The application identified Union Camp Corporation located at Valley Road in Wayne, New Jersey as the owner and operator of the facility. Hazardous waste activities identified by the application are D007 and D008 (ref 5). By correspondence dated April 26, 1982, Union Camp requested withdrawal of their Hazardous Waste Permit Application due to a change in the type of inks used by the facility (ref 10). By correspondence dated October 7, 1982, EPD acknowledged Union Camp's request for withdrawal of its Part A and changed its status to a small quantity generator (ref 11).

1.0 INTRODUCTION

The Georgia Environmental Protection Division, Hazardous Waste Management Program (EPD) conducted a Preliminary Assessment (PA) and a Visual Site Inspection (VSI) at Union Camp Corporation, November 20, 1989. The task was performed as part of the Environmental Priorities Initiative (EPI) as described in Technical Directive Document (TDD) No. F4-8810-39.

1.1 OBJECTIVE

The major objective of the EPI program is to conduct an on-site and off-site inspection of the assigned facility in order to characterize the Solid Waste Management Units (SWMUs) associated releases and other Areas of Concerns (AOC). The inspection is conducted in a two-phase operation: the Preliminary Review which includes the review and evaluation of specific file documents; and the Visual Site Inspection (VSI) which identifies all SWMUs, known releases, and AOCs.

1.2 SCOPE OF WORK

The scope of this investigation included the following activities:

- a file search of State files in an attempt to obtain and review specific documents that will help characterize the facility,
- development of a detailed site base map to scale including site features, solid waste management unit locations, areas of concern, and photo-documentation areas,
- evaluation of target populations within a 3-mile radius from the site with regard to groundwater, air, and within 15-mile stream distance for surface water,
- a private well survey within a 3-mile radius of the facility,
- photo-documentation of all Solid Waste Management Units (SWMUs) and related releases and exposure to pathways,
- inspection and photo-documentation of all Areas of Concern (AOC)

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

The Union Camp Corporation site is located at 5115 Pine Tree Street, Forest Park, Clayton County, Georgia. The site is more specifically located at 33° 36' 52.0" north Latitude and 84° 23' 45.0" west Longitude on the United States Geological Survey (U.S.G.S.) Riverdale Georgia quadrangle topographic map (Figure 1).

2.2 SITE FEATURES

The facility is located in an industrial park on approximately 14.19 acres of predominantly flat, open terrain (Reference 1). The major features of the Union Camp site are the manufacturing plant and the paved parking lot. The manufacturing plant houses the general offices, boiler room, maintenance shop, all manufacturing activities, shipping and receiving.

2.3 OWNERSHIP HISTORY

The Union Camp Corporation facility in Forest Park is owned and operated by Union Camp Corporation located at 1600 Valley Road, in Wayne, New Jersey (reference 1).

2.4 NATURE OF OPERATION

Union Camp manufactures corrugated containers. The corrugator combines three sheets of roll stock paper using a corn starch base adhesive into corrugated containers. The corrugated containers are transported to the printing operation. The ink is applied to the containers and they are slotted and scored. A PVA glue which comes in tote bins is used to glue the seams of the containers together.

Union Camp used to generate D007 (Chromium) and D008 (Lead) EP Toxic Flexographic Ink wastes in their printing operation. In 1982, they began using water base inks. The MSDS sheets on the water base inks do not list any EP Toxic metals. Since the inks are water-base, they do not use solvents. Their waste waters goes to Clayton County Sewer System with permission of the County and is routinely checked (reference 2). The cardboard scrap waste is baled and shipped to the mills to be recycled.

2.5 PERMIT AND REGULATORY HISTORY

Union Camp Corporation is currently classified as a small quantity generator, as specified by section 391-3-11-.07: 261.5.

A Part A Application for Hazardous Waste Facility Permit dated November 12, 1980 was submitted to U.S. EPA Region IV by Union Camp Corporation. The application identified Union Camp Corporation located at Valley Road, Wayne, New Jersey as the owner and operator of the facility. Hazardous waste activities identified by the application are summarized in Table 1 (reference 1). By correspondence dated April 26, 1982, Union Camp requested withdrawal of their Hazardous Waste Permit Application due to a change in the type of inks used by the facility (reference 3). By correspondence dated October 7, 1982, EPD acknowledged Union Camp's request for withdrawal of its Part A and changed its status to a small quantity generator (reference 4).

On June 12, 1987, an inspection was conducted to investigate an anonymous complaint regarding an alleged "dumping of lead toxic waste via drums on the property" (reference 2). The inspection confirmed that Union Camp was not in violation of any of its rules for hazardous waste management.

3.0 ENVIRONMENTAL SETTING

3.1 Water Supply

Potable water within the study area is provided by two water systems, the Riverdale water system and the Florida Rock Industries, Inc. The Riverdale Water System and the Florida Rock Industries, Inc., provide water to approximately 4,350 people and 50 people respectively. Both authorities use groundwater exclusively and are located Southeast of the facility (reference 5).

3.2 Surface Water

The nearest surface water to Union Camp Corporation site is Mud Creek located approximately 1,000 feet west of the facility. Mud Creek flows South two miles before emptying into the Flint River. Surface runoff from the site enters Mud Creek (reference 6).

3.3 HYDROGEOLOGY

The geologic and hydrogeologic conditions in the study area were researched as part of the site investigation. A preliminary literature review was conducted to determine surface and subsurface conditions, soil character, and the status of groundwater transport and storage.

3.3.1 GEOLOGY

Clayton County is in the Southern Piedmont Physiograph Province. The area is generally characterized by broad gently sloping and strong sloping ridgetops in the western part and by steep hillsides below narrow ridgetops in the eastern part. Nearly level flood plains throughout the area are commonly adjacent to steep hillsides. The drainage system includes the Flint River, the South River, and their associated tributaries (reference 7).

Rock types in the subject area consist primarily of granite gneiss containing biotite, muscovite, quartz, and feldspar in order of increasing abundance. In some areas the unit includes layers of amphibolite and other rocks (reference 8). Generally, rocks throughout the Province strike northeast and dip southeast; however, local anomalies do occur (reference 9).

3.3.2 Soils

The soils in the area of the Union Camp facility are gently sloping and strongly sloping urban land areas in which the landscape is commonly modified by cuts and fill material (reference 7).

3.3.3 Groundwater

The Piedmont Region utilizes an unconfined surficial aquifer. It is characterized by rock zone overlying crystalline rock. The groundwater sources can be found within and also interfacing both the weathered rock and the crystalline. Crystalline rock groundwater is most common within stress relief fractures, fault zones, zones of fracture concentration, small scale geologic structures that localize drainage, folds that produce concentrated jointing and shear zones. Many wells in this area are highly dependable (reference 8).

3.4 CLIMATE AND METEOROLOGY

The mean annual precipitation for the Clayton County for the period 1951-1974 was 48 inches. Average summer temperature is 77°F, and the average winter temperature is 44°F (reference 7). The mean annual lake evapotranspiration is 42 inches (reference 10).

3.5 LAND USE

Land use within the 3-mile radius consist of commercial, industrial, residential and some agricultural (reference 11).

3.6 POPULATION DISTRIBUTION

The total population within a three mile radius of the facility is estimated to be 13,281 (reference 11). Population within a 1-mile, 2-mile and 3-mile radius is estimated at 923, 4,918, and 7,441 respectively.

3.7 CRITICAL HABITATS/ENDANGERED SPECIES

No critical habitats were identified within the study area.

The ranges of three endangered species encompass the facility and surrounding vicinity, the red-cockaded woodpecker - Picoides borealis (Viellot), Southern Bald Eagle, - Haliaeetus leucocephalus (Linnaeus), and Indiana Bat - Myotis sodalis (Miller and Allen)(reference 12).

4.0 VISUAL SITE INSPECTION (VSI)

The Visual Site Inspection of Union Camp Corporation was performed November 20, 1989. The VSI focused on past and present waste streams at the facility in order to identify all Solid Waste Management Units (SWMUs) and to collect information beneficial in assessing their potential to release hazardous waste or constituents to the environment.

4.1 SOLID WASTE MANAGEMENT UNITS

Five SWMUs were evaluated during the VSI and are identified on Figure 2 and Table 2.

The VSI was conducted on November 20, 1989. The inspection began with an entrance interview with Tom Mullins to explain the purpose of the inspection and to outline data needs. Mr. Mullins described the manufacturing process and identified waste streams. A visual inspection of the entire facility was conducted to evaluate each SWMU.

SWMU Number: 1

SWMU Name: Hazardous Waste Storage

SWMU Description: This unit was used for the storage of D007 (Chromium) and D008 (Lead) EP Toxic Flexographic Ink wastes. The storage area had a design capacity of 5,625 square feet.

Date of Start-Up: 1976

Date of Closure: 1982

Waste Managed: D007, D008

Release Controls: Concrete floor.

Release History: None

Photographs: None

SWMU Number: 2

SWMU Name: Cyclone

SWMU Description: An eighteen foot (18') diameter cyclone used for the control of paper dust and scrap.

Date of Start-Up: 1984

Date of Closure: Active

Waste Managed: Paper dust and scrap from container manufacturing

Release Controls: None

Release History: None

Photograph: 1.1

SWMU Number: 3

SWMU Name: Old Cyclone

SWMU Description: The cyclone was used for the control of paper dust and scrap.

Date of Start-Up: 1962

Date of Closure: 1984

Waste Managed: Paper dust and scrap from container manufacturing.

Release Controls: None

Release History: None

Photograph: None

SWMU Number: 4

SWMU Name: Waste Oil Storage

SWMU Description: A 250 gallon tank located south of the facility.

Date of Start-Up: Unknown

Date of Closure: Active

Waste Managed: Waste Oil

Release Controls: A three foot (3') concrete block retaining wall around the waste oil tank.

Release History: None

Photograph: None

SWMU Number: 5

SWMU Name: Compactor

SWMU Description: The compactor is used to manage solid waste generated by the facility. The waste is removed from the compactor to a trash bin located east of the facility.

Date of Start-Up: 1963

Date of Closure: Active

Waste Managed: Solid Waste

Release Controls: None

Release History: None

Photograph: 1.1 and 1.2

TABLE 1
PART A SUMMARY
UNION CAMP CORPORATION

November 12, 1980

<u>EPA WASTE CODE</u>	<u>ESTIMATED ANNUAL QUANTITY (P)</u>	<u>METHOD OF STORAGE</u>
D008	750,000	S01
D007		included with above

TABLE 2
SOLID WASTE MANAGEMENT UNITS

UNION CAMP CORPORATION
FOREST PARK, GEORGIA

<u>LOCATION NUMBER FIGURE 2</u>	<u>NAME</u>	<u>RCRA REGULATED</u>	<u>STATUS</u>
1	Hazardous Waste Storage	Yes	Inactive
2	Cyclone	No	Active
3	Old Cyclone	No	Inactive
4	Waste Oil Storage	No	Active
5	Compactor	No	Active

REFERENCES

1. Part A Application, November 12, 1980; Union Camp Corporation File, Generator Compliance Unit, GA/EPD.
2. Trip Report, June 12, 1987; Union Camp Corporation File, Generator Compliance Unit, GA/EPD.
3. Correspondence, April 26, 1982; Union Camp Corporation File, Generator Compliance Unit, GA/EPD.
4. Correspondence, October 7, 1982; Union Camp Corporation File, Generator Compliance Unit, GA/EPD.
5. Clayton County File, Water Resources Management Branch, GA/EPD.
6. Potential Hazardous Waste Site Preliminary Assessment, September 17, 1985; Union Camp Corporation File, Generator Compliance Unit, GA/EPD.
7. Soils Survey of Clayton, Fayette and Henry Counties, Georgia, U.S.D.A. Conservation Service, 1979.
8. Cressler, C. W., C. J. Thurmond, and W. G. Hester, 1983, Groundwater in the Greater Atlanta Region, Georgia: Georgia Geologic Survey Information Circular 63.
9. McConnell, K. I., and Abrams, C. E., 1984; Geology of the Greater Atlanta Region, Georgia: Geologic Survey, Bulletin 96.
10. Climatic Atlas of United States, U.S. Department of Commerce, National Climatic Center, Ashville, North Carolina, 1979.
11. U.S. Geologic Survey, 7.5 minute series, topographic quadrangles ; Riverdale, 1982; Jonesboro, 1983, Southwest Atlanta, 1983; Southeast Atlanta, 1983.
12. Georgia's Protected Wildlife, Georgia Department of Natural Resources, September, 1987.

UNSCANNABLE
MEDIA
(PHOTOGRAPHS)

OVERSIZED

DOCUMENT

**PRELIMINARY ASSESSMENT COVER SHEET
UNION CAMP CORP.
GAD059538645**

The Union Camp Corporation facility is located at 5115 Pine Tree Street, Forest Park, Georgia 30050. The facility has produced corrugated boxes at this location since the plant was constructed in about 1962.

In a phone conversation on September 17, 1985, the plant engineer, Mr. Guy Rasch, stated that prior to a few years ago, printing inks used at the facility were solvent based and possessed lead and/or chromium pigments. The RCRA Part A Application filed by the facility indicated that 750,000 lbs. of chromium and lead (presumably this represents chrome or lead containing inks) were generated annually. Inks used at the plant now contain 10% or less solvent in the form of an alcohol. Mr. Rasch had no information regarding hazardous waste handling practices prior to 1980. Since 1980, hazardous wastes generated by the facility have been handled in accordance with the Georgia Rules for Hazardous Waste Management. The facility has withdrawn its Part A Application and it is classified as a small quantity generator.

The facility is located in a heavily industrialized and populated area. Surface runoff from the site area enters Mud Creek about 1,000 feet to the west. Mud Creek enters the Flint River approximately 2 miles south of the site. Ground water is not believed to be used in the immediate vicinity of the site. Soils at the site are believed to be similar to clay-rich soils found elsewhere in the Piedmont Province of the State.

The site is assessed a "Low" priority for inspection because no record exists regarding hazardous waste handling practices at the site from 1962-1980.

CSW/mcw010
File - Union Camp Corp./GAD059538645



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
GA GAD059538645

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Union Camp Corporation		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 5115 Pine Tree Street				
03 CITY Forest Park		04 STATE GA	05 ZIP CODE 30050	06 COUNTY Clayton	07 COUNTY CODE 063	08 CONG DIST 06
09 COORDINATES LATITUDE 33 36' 52.0"		LONGITUDE 084 23' 45.0"				

10 DIRECTIONS TO SITE: (Starting from nearest public road)
From the intersection of Hwy. 331 and I-75, proceed east on Hwy. 331 for about 1/4 mile and turn south on Pine Tree Street. Facility is located at 5115 Pine Tree Street.

III. RESPONSIBLE PARTIES

01 OWNER (if known) Union Camp Corporation		02 STREET (Business, mailing, residential) 1600 Valley Road			
03 CITY Wayne		04 STATE NJ	05 ZIP CODE 07470	06 TELEPHONE NUMBER 201,628-9000	
07 OPERATOR (if known and different from owner)		08 STREET (Business, mailing, residential)			
09 CITY		10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()	

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 11/19/80 MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (RCRA 103 d) DATE RECEIVED: ____/____/____ MONTH DAY YEAR ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE 11/20/89 MONTH DAY YEAR <input type="checkbox"/> NO		02 BY (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input checked="" type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify) CONTRACTOR NAME(S): _____			
03 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		04 YEARS OF OPERATION 1962 Present <input type="checkbox"/> UNKNOWN BEGINNING YEAR ENDING YEAR			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Past use of EP Toxic Flexographic Ink waste classified as D007(Chromium) and D008(Lead).
Various unspecified solvents.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Low- no records exist regarding hazardous waste handling practices prior to 1980.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed; complete current inspection form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT Tom Mullins		02 OF, Agency Organization Union Camp Corporation		03 TELEPHONE NUMBER (404) 366-9118	
04 PERSON RESPONSIBLE FOR ASSESSMENT Susan Eason		05 AGENCY DNR-EPD	06 ORGANIZATION HWMP	07 TELEPHONE NUMBER (404) 656-7802	08 DATE 11/28/89 MONTH DAY YEAR



<input checked="" type="checkbox"/> A. TOXIC	<input type="checkbox"/> E SOLUBLE	<input type="checkbox"/> I HIGHLY VOLATILE
<input type="checkbox"/> B CORROSIVE	<input type="checkbox"/> F INFECTIOUS	<input type="checkbox"/> J EXPLOSIVE
<input type="checkbox"/> C RADIOACTIVE	<input type="checkbox"/> G FLAMMABLE	<input type="checkbox"/> K REACTIVE
<input type="checkbox"/> D PERSISTENT	<input type="checkbox"/> H IONIZABLE	<input type="checkbox"/> L INCOMPATIBLE
		<input type="checkbox"/> M NOT APPLICABLE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	ONLY WASTE			
SOL	SOLVENTS	unknown	-----	various unspecified solvents
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown	-----	lead & Chromium in inks

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
GA GAD059538645

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown 04 NARRATIVE DESCRIPTION

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☒ B SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown 04 NARRATIVE DESCRIPTION

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☐ C CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ E DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ F CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) 04 NARRATIVE DESCRIPTION

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☐ G DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE GA	02 SITE NUMBER GAD059538645

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include number(s) of species)

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquid, leaking drums)
03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

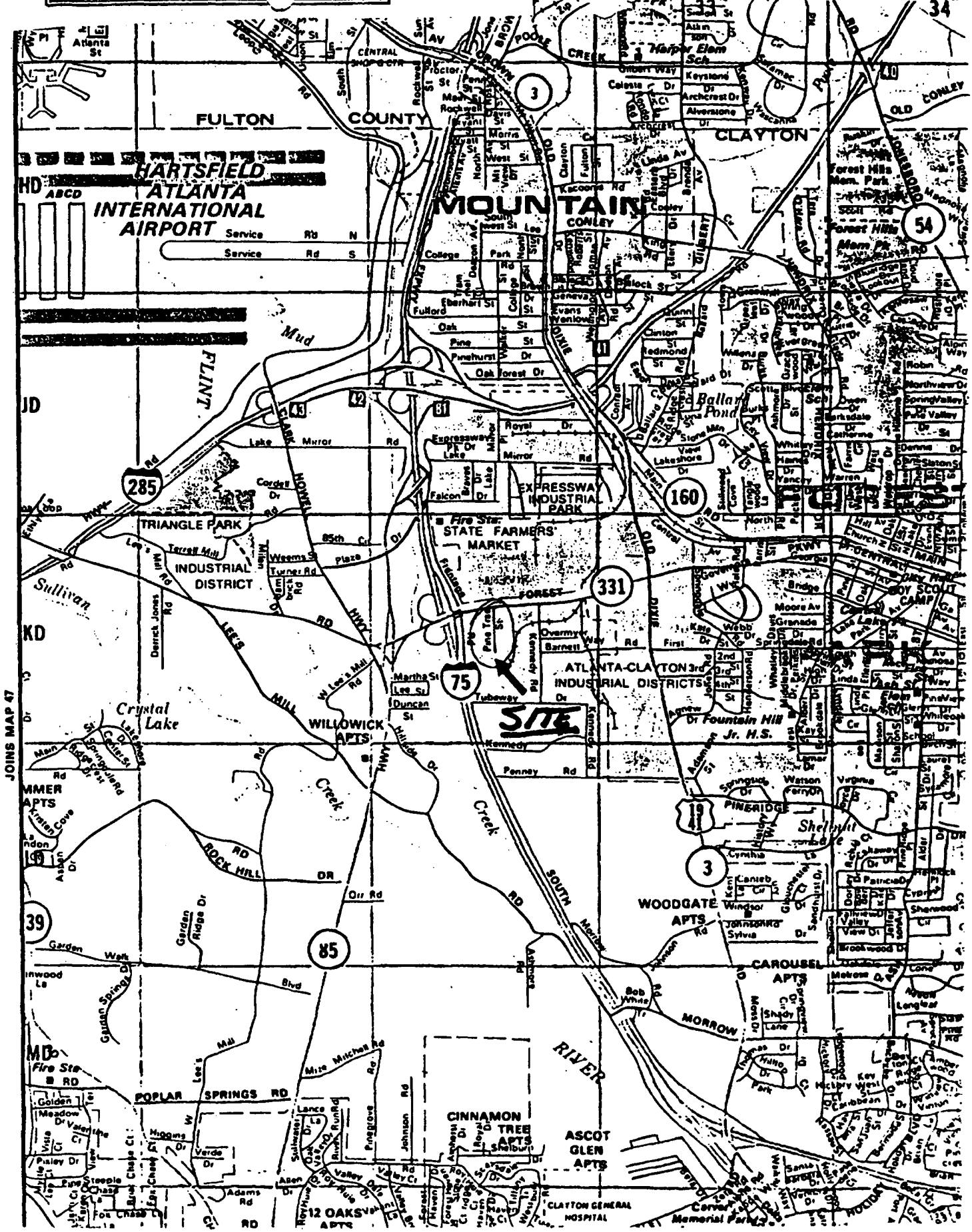
III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (List specific references to data used, sample analysis, reports)

EPD State Files

Figure 2: Street Map Site Area





POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
GA D059538645

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Union Camp Corp.		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 5115 Pine Tree Street			
03 CITY Forest Park	04 STATE GA	05 ZIP CODE 30050	06 COUNTY Clayton	07 COUNTY CODE 063	08 CONG DIST 06
09 COORDINATES LATITUDE 33° 36' 52.0"		LONGITUDE 084° 23' 45.0"			

10 DIRECTIONS TO SITE (Starting from nearest public road)

From the intersection of Hwy. 331 and I-75, proceed east on Hwy. 331 for about 1/4 mile and turn south on Pine Tree Street. Facility is located at 5115 Pine Tree St.

III. RESPONSIBLE PARTIES

01 OWNER (if known) Union Camp Corp.		02 STREET (Business, mailing, residential) 1600 Valley Road			
03 CITY Wayne	04 STATE NJ	05 ZIP CODE 07470	06 TELEPHONE NUMBER (201) 628-9000		
07 OPERATOR (if known and different from owner)		08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☒ A. RCRA 3001 DATE RECEIVED: 80 / / MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / MONTH DAY YEAR ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input type="checkbox"/> YES DATE <u> </u> / <u> </u> / <u> </u> MONTH DAY YEAR <input checked="" type="checkbox"/> NO		02 BY (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify) CONTRACTOR NAME(S): _____			
---	--	--	--	--	--

02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN	03 YEARS OF OPERATION BEGINNING YEAR <u>1962</u> ENDING YEAR <u>continuing</u> <input type="checkbox"/> UNKNOWN
--	--

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

lead - in printing inks
chromium -
various unspecified solvents

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Low - no record exists regarding hazardous waste handling practices prior to 1980.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents) <input type="checkbox"/> A. HIGH (inspection required promptly) <input type="checkbox"/> B. MEDIUM (inspection required) <input checked="" type="checkbox"/> C. LOW (inspect on time available basis) <input type="checkbox"/> D. NONE (No further action needed, complete current assessment form)			
---	--	--	--

VI. INFORMATION AVAILABLE FROM

01 CONTACT Mr. M. F. Brennan - Gen. Man.	02 OF (Agency/Organization) Union Camp-Forest Park	03 TELEPHONE NUMBER '404' 366-9118
04 PERSON RESPONSIBLE FOR ASSESSMENT Steve Walker	05 AGENCY DNR-EPD	06 ORGANIZATION RAU
	07 TELEPHONE NUMBER '404' 656-7404	08 DATE 09/17/85

EPA FORM 2070-12 (7-81)

J. Surawie



03 WASTE CHARACTERISTICS (Check all that apply)

<input checked="" type="checkbox"/> A. TOXIC	<input type="checkbox"/> E. SOLUBLE	<input type="checkbox"/> I. HIGHLY VOLATILE
<input type="checkbox"/> B. CORROSIVE	<input type="checkbox"/> F. INFECTIOUS	<input type="checkbox"/> J. EXPLOSIVE
<input type="checkbox"/> C. RADIOACTIVE	<input type="checkbox"/> G. FLAMMABLE	<input type="checkbox"/> K. REACTIVE
<input type="checkbox"/> D. PERSISTENT	<input type="checkbox"/> H. IGNITABLE	<input type="checkbox"/> L. INCOMPATIBLE
		<input type="checkbox"/> M. NOT APPLICABLE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	unknown	-----	various unspecified solvents
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown	-----	lead & chromium in inks

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

19



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
GA D059538645

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown 04 NARRATIVE DESCRIPTION

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: unknown 04 NARRATIVE DESCRIPTION

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 1 - 20 04 NARRATIVE DESCRIPTION
(Acres)

Potential from unknown hazardous waste handling practices prior to 1980.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
GA D059538645

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, runoff, standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references e.g., State files, sample analysis, reports)

GA EPD State Files.

REFERENCES

1. Cressler, C.W., C. J. Thurmond, and W. G. Hester, 1983; Groundwater in the Greater Atlanta Region, Georgia: Georgia Geologic Survey Information Circular 63.
2. McConnell, K. I. and C. E. Abrams, 1984: Geology of the Greater Atlanta Region, Georgia: Geologic Survey, Bulletin 96.
3. Soils Survey of Clayton, Fayette, and Henry Counties, Georgia, U.S.D.A. Conservation Service, 1979.
4. Climatic Atlas of United States, U.S. Department of Commerce, National Climatic Center, Ashville, North Carolina, 1979.
5. Part A Application, November 12, 1980; Union Camp Corp. File, Generator Compliance Unit, Georgia Environmental Protection Division.
6. Dangerous Properties of Industrial Materials Fifth Edition, N. Irving Sax, 1979.
7. Clayton County File, Water Resources Management Branch, Georgia Environmental Protection Division.
8. U. S. Geologic Survey, 7.5 minute series topographic quadrangles; Riverdale, 1982; Jonesboro, 1983; Southwest Atlanta, 1983; Southeast Atlanta, 1983.
9. Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U. S. Department of Commerce, U. S. Government Printing Office, Washington, D. C., 1963.
10. Correspondence, April 26, 1982; Union Camp Corporation File, Generator Compliance Unit, Georgia Environmental Protection Division.
11. Correspondence, October 7, 1982; Union Camp Corporation File, Generator Compliance Unit, Georgia Environmental Protection Division.

OVERSIZED

DOCUMENT

11--in areas are spaced for 8 1/2" x 11" (11" x 17" character width).

FORM 1 **EPA** **U.S. ENVIRONMENTAL PROTECTION AGENCY**
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

EPA I.D. NUMBER 000403

FACILITY NAME

FACILITY MAILING ADDRESS

FACILITY LOCATION

RECEIVED
PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS
 If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, go through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete items II and IV if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any question, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X"			SPECIFIC QUESTIONS	MARK "X"		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	X			H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY
 1 SKIP UNION CAMP CORPORATION

IV. FACILITY CONTACT
 2 BRENNAN MF
 A. NAME & TITLE (PRINT NAME)
 B. PHONE (area code & no.) 404 366 9118

V. FACILITY MAILING ADDRESS
 A. STREET OR P.O. BOX
 3 5115 PINE TREE ST
 B. CITY OR TOWN
 4 FOREST PARK
 C. STATE
 GA
 D. ZIP CODE
 30050

VI. FACILITY LOCATION
 A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER
 5 5115 PINE TREE ST
 B. COUNTY NAME
 CLAYTON
 C. CITY OR TOWN
 6 FOREST PARK
 D. STATE
 GA
 E. ZIP CODE
 30050
 F. COUNTY CODE
 13

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
7	2	6	5	7			
(specify) PAPER CONVERTING				(specify)			
C. THIRD				D. FOURTH			
7				7			
(specify)				(specify)			

VIII. OPERATOR INFORMATION

A. NAME										B. Is the name listed in Item VIII-A also the owner?	
UNION CAMP CORPORATION										<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)										D. PHONE (area code & no.)	
F - FEDERAL		M - PUBLIC (other than federal or state)		P - PRIVATE		O - OTHER (specify)		A		201 628 9000	
E. STREET OR P.O. BOX											
1600 VALLEY ROAD											
F. CITY OR TOWN					G. STATE		H. ZIP CODE		IX. INDIAN LAND		
WAYNE					NJ		07470		Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)				D. PSD (Air Emissions from Proposed Sources)			
N				P			
B. UIC (Underground Injection of Fluids)				E. OTHER (specify)			
U				2653-031-9410 (specify) STATE AIR PERMIT			
C. RCRA (Hazardous Wastes)				E. OTHER (specify)			
R				2653-031-9420 (specify) STATE AIR PERMIT			

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

MANUFACTURE OF CORRUGATED PAPERBOARD PACKAGING

2653-031-943-0 STATE AIR PERMIT

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
J. H. NEALE VICE-PRESIDENT & GENERAL MANAGER		<i>J. H. Neale</i>		11/12/80	

COMMENTS FOR OFFICIAL USE ONLY

C.	
----	--

Print or type in the unshaded areas only.
In areas are spaced for elite type, i.e., 12 characters/inch).

Form App d OMB No. 158-S80004

U.S. ENVIRONMENTAL PROTECTION AGENCY
ZARDOUS WASTE PERMIT APPLICATION
Consolidated Permits Program
(This information is required under Section 3005 of RCRA.)

1. EPA I.D. NUMBER
FGAD059538645

FOR OFFICIAL USE ONLY

APPLICATION APPROVED DATE RECEIVED (yr., mo., & day)

COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☒ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

8 0 1 0 2 9

☐ 2. NEW FACILITY (Complete item below.)

FOR NEW FACILITY, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete item I above)

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES - CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS		T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C)		
INJECTION WELL	D01	GALLONS OR LITERS			
LANDFILL	D02	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D03	ACRES OR HECTARES			
OCEAN DISPOSAL	D04	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D05	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY	ACRE-FEET	A	
LITERS	L	TONS PER HOUR	HECTARE-METER	H	
CUBIC YARDS	Y	METRIC TONS PER HOUR	ACRES	B	
CUBIC METERS	C	GALLONS PER HOUR	HECTARES	D	
GALLONS PER DAY	U	LITERS PER HOUR			

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

DUP

LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY	FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)			1. AMOUNT	2. UNIT OF MEASURE (enter code)
X-1	S 0 2	600	G	5			
X-2	T 0 3	20	E	6			
1	S 0 1	100,000	G	7			
2				8			
3				9			
4				10			

Continued from the front.

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (USE "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS.....	P	KILOGRAMS.....	K
TONS.....	T	METRIC TONS.....	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZ. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

used from page 2.

Photocopy this page before completion.

you have more than 26 wastes to list.

Form Approved OMB No. 1545-0004

EPA I.D. NUMBER (enter from page 1)

FOR OFFICIAL USE ONLY

W G A D O 5 9 5 3 8 6 4 5

W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D 0 0 0	750,000	P	S 0 1	
2	D 0 0 7				INCLUDED WITH ABOVE
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) PAGE 3.

EPA I.D. NO. (enter from page 1)

F G A D 0 5 9 5 3 8 6 4 5 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

33 37 00 3

LONGITUDE (degrees, minutes, & seconds)

084 23 05 5

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & NO.)

E

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

F G

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

J. H. NEALE

B. SIGNATURE

J. H. Neale

C. DATE SIGNED

11/12/80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

M. F. BRENNAN

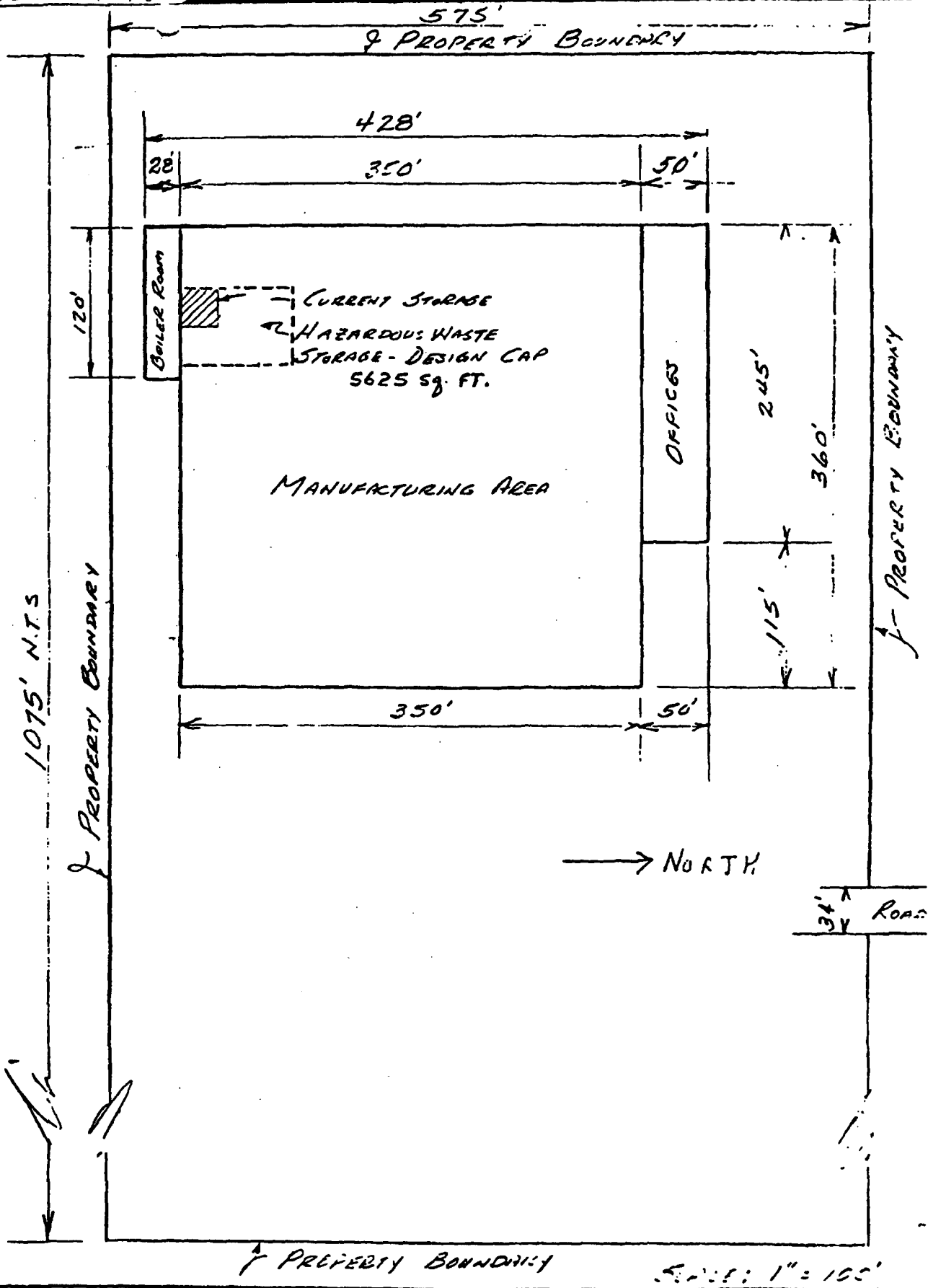
B. SIGNATURE

M. F. Brennan

C. DATE SIGNED

11/15/80

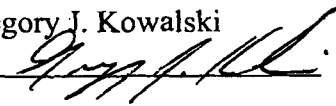
FACILITY DRAWING (see page 4)



Record of Telephone Conversation

Date: January 11, 2000
Time: 0845

UNION CAMP
Forest Park, Clayton Co., Georgia
EPA ID Number: GAD059538645

Organization:
TN & Assoc., Inc.,
Reg. 4 EPA STAT Contract
Name: Gregory J. Kowalski
Signature: 

Contacted:
Ms. Shirley Turnipseed
Clayton County Tax Assessors Office
121 S. McDonough St., Courthouse Annex #3 -
4th Floor
Jonesboro, Ga. 30236
770-477-3285

Subject: Property Ownership

Spoke with Ms. Shirley Turnipseed in the Clayton County Tax Assessors Office regarding the property ownership of 5115 Pine Tree Street in Forest Park, Ga. She explained that the 14-acre parcel was owned by International Paper.

RESPONSE REQUIRED

☒ None ☐ Phone call ☐ Memo ☐ Letter ☐ Report

cc: ☒ File ☒ Project Manager ☐ Principal Investigator ☐ Other (specify)



Facility Information

[Overview](#)
[EZ Query](#)
[Query](#)
[Model](#)
[Feedback](#)
[EF Home](#)

[Report Error](#)

Facility Detail Report

Facility Name:	UNION CAMP CORPORATION
Location Address:	5115 PINE TREE ST
Supplemental Address:	
City Name:	FOREST PARK
State	GA
County Name:	CLAYTON
ZIP/Postal Code:	30050
EPA Region:	4
Congressional District Number:	
Legislative District Number:	
HUC Code:	
Federal Facility:	
Tribal Land :	
Tribal Land Name:	
DUNS Company Number:	059538645
Latitude:	33.616708
Longitude:	-84.395272
Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy (meters):	150
Reference Point Description:	PLANT ENTRANCE (GENERAL)

[Report Facility Discrepancy](#)

[Map this facility](#)

Map this facility using one of Envirofact's mapping utilities.

Environmental Interest

<u>Environmental Interest Type</u>	<u>Information System</u>	<u>Information System ID</u>	<u>Data Source</u>	<u>Last Updated Date</u>
	STATE	26530319410		
	STATE	26530319420		
	TRIS	30050NNCMP5115P		
	RCRIS	GAD059538645		
	AIRS/AFS	GA0027830		
	CERCLIS	0401505		
	NCDB	I04#1995090611478 2		

Facility Mailing Addresses

No Facility Mailing Addresses returned.

NAIC Codes

No NAIC Codes returned.

SIC Codes

<u>Source</u>	<u>SIC Code</u>	<u>Description</u>	<u>Primary</u>	<u>Report Discrepancy</u>
STATE	2653	CORRUGATED AND SOLID FIBER BOXES		<u>Report</u>
STATE	2653	CORRUGATED AND SOLID FIBER BOXES		<u>Report</u>
TRIS	2653	CORRUGATED AND SOLID FIBER BOXES	PRIMARY	<u>Report</u>
RCRIS	2653	CORRUGATED AND SOLID FIBER BOXES	PRIMARY	<u>Report</u>
AIRS/AFS	2653	CORRUGATED AND SOLID FIBER BOXES	PRIMARY	<u>Report</u>

Contacts

<u>Affiliation Type</u>	<u>Full Name</u>	<u>Office Phone</u>	<u>Information System</u>	<u>Mailing Address</u>	<u>Report Discrepancy</u>
PUBLIC CONTACT	TOM MULLINS	4043669118	TRIS		Report
NOTIFICATION DATA	JACK HARRINGTON	4043669118	RCRIS	View	Report
PART A DATA	M.F. BRENNAN	4043669118	RCRIS	View	Report
COMPLIANCE TRACKING	RON HOLLOMAN		AIRS/AFS		Report

Organizations

<u>Affiliation Type</u>	<u>Name</u>	<u>DUNS Number</u>	<u>Information System</u>	<u>Mailing Address</u>	<u>Report Discrepancy</u>
OWNER	UNION CAMP CORP.	059538645	TRIS		Report
CURRENT OPERATOR	OPERNAME		RCRIS	View	Report
CURRENT OWNER	INTERNATIONAL PAPER COMPANY		RCRIS	View	Report
PREVIOUS OWNER	UNION CAMP CORP.		RCRIS	View	Report

Alternative Names

<u>Alternative Name</u>	<u>Alternative Name Type</u>	<u>Source</u>	<u>Date Reported</u>
INTERNATIONAL PAPER		AIRS/AFS	
UNION CAMP CORP		CERCLIS	
UNION CAMP CORP		NCDB	
UNION CAMP CORPORATION		RCRIS	
UNION CAMP CORPORATION		STATE	
UNION CAMP CORPORATION		STATE	
UNION CAMP CORP.		TRIS	

Query executed on: JAN-10-2001

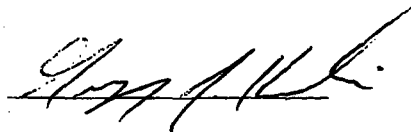
Project Note

Date: January 11, 2000
Time: 0945

UNION CAMP
Forest Park, Clayton Co., Georgia
EPA ID Number: GAD059538645

Organization: TN & Assoc., Inc.,
Reg. 4 EPA STAT Contract
Name: Gregory J. Kowalski

Signature:



Subject: Chromium and Lead in Inks

Attached are 2 letters from Union Camp's ink vendors *J. M. Huber* and *Sinclair and Valentine*, documenting the presence of chromium and lead in the inks shipped to the facility.

RESPONSE REQUIRED

☒ None ☐ Phone call ☐ Memo ☐ Letter ☐ Report

cc: ☒ File ☐ Project Manager ☐ Principal Investigator ☐ Other (specify)

CONTINUING CERTIFICATION

J. M. HUBER CORPORATION, a New Jersey corporation ("Huber") hereby certifies that Huberflex, Kraftset, and Waterlene ink sold, shipped or delivered by Huber to all locations of Union Camp Corp. (the "Purchaser") after the date hereof shall have a detectable concentration of lead and chromium of no greater than 150 parts per million of lead and no greater than 150 parts per million of chromium.

This certification shall be binding upon Huber until Huber gives the Purchaser written notice of its revocation.

J. M. HUBER CORPORATION

Date: Nov. 25, 1980

By: G. A. Lessille
Technical Director



SINCLAIR AND VALENTINE

1339 ELLSWORTH INDUSTRIAL DRIVE, N.W. • ATLANTA, GEORGIA 30318

December 17, 1980

Union Camp Corporation
5115 Pinetree
Forest Park, Georgia 30050

SUBJECT: UNION CAMP LEAD GUARANTEE GCMI INKS

TO WHOM IT MAY CONCERN:

Sinclair and Valentine guarantees that the printing ink supplied to the above referenced Union Camp Corporation facility will contain less than 200 mg/l of lead and chromium. This guarantee will continue in effect until such time as it may be rescinded in writing.

Sincerely,

Elton Grimes
Regional Manager

EG:mlf

TELEPHONE MEMORANDUM

FROM: Steve Walker - EPD (404) 656-7404
TO: Mr. Guy Rasch - Plant Eng., Union Camp (404) 366-9118
SITE: Union Camp Corp 6AD059538645
DATE: 9/17/85 TIME: 12:01 p.m.

COMMENTS: I called Mr. Rasch to obtain information which was lacking in the file. Mr. Rasch stated that the plant was built in ^{about} 1962. Wastes (or waste) up until a couple of years ago consisted of solvent based printing inks which contained some chromium and/or lead. Mr. Rasch had no idea of how these hazardous inks were disposed of in the 1960's or 1970's. He stated that at present, inks used by the facility contain <10% solvent in the form of an alcohol.

Mr. Rasch stated that at the 3 state air permits possessed by the facility, 1 is for a heater used to heat water for steam which is used in the plant, 1 is for a heater for the plant, and the final permit is for a "cyclone" which removes paper dust from inside the plant.

The facility manufactures corrugated boxes

ACTION REQUIRED: _____

Steve Walker 9/17/85

cc: 1) _____
2) _____
3) _____
4) _____
5) _____



CONTAINER DIVISION

5115 PINE TREE STREET, FOREST PARK, GEORGIA 30050 TELEPHONE (404) 366-9118

September 3, 1982

Mr. Robert I. Rose, Environmental Specialist
Industrial & Hazardous Waste Management Program
Department of Natural Resources
Environmental Protection Division
270 Washington Street, S.W.
Atlanta, Georgia 30334

Dear Mr. Rose:

This is in response to your letter of May 4, 1982 requesting additional information regarding our letter of April 26, 1982 to withdraw our EPA Hazardous Waste Permit Application of November 19, 1980.

The washwater from the flexographic inks used in 1980 occasionally exceeded the RCRA limit of 5.0 mg./l. for lead and chromium in the EP toxicity test as described in the Georgia Rules for Hazardous Waste Management. The results were erratic because a few ink colors contained lead and chromium pigments but most colors did not. This waste is not ignitable because it is 99% water containing some ink residue.

At the end of 1980 we stopped purchasing inks containing appreciable amounts of lead and chromium pigments. We recently tested both our ink washwater as you requested and the incoming county-supplied fresh water for this location for all metals regulated under RCRA. You will note on the enclosed report from Advanced Analytical Technology dated August 5, 1982 that the results for both lead and chromium are well below the RCRA limits and, in fact, below 1.0 mg./l. Enclosed, also, are letters from our ink suppliers verifying that the inks contain negligible amounts of these pigments. } Ref. 6

To: Mr. Robert I. Rose
September 3, 1982
Page -2-

Some of the original washwater was stored in our plant in a designated hazardous waste storage area. On August 10, 1982 this washwater was removed from the plant by an authorized disposal company using the hazardous waste manifest procedure.

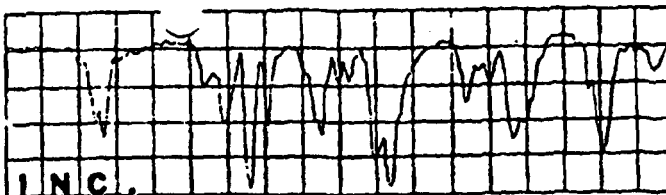
We will look forward to hearing from you concerning our withdrawal of the EPA Hazardous Waste Permit Application.

Very truly yours.


M. F. Brennan, Plant Manager

cc: Thomas J. Dillon, Esq.

**ADVANCED
ANALYTICAL
TECHNOLOGY**



CHEMICAL AND BIOLOGICAL TESTING

5117 NEW PEACHTREE ROAD, SUITE 103
ATLANTA, GEORGIA 30341
(404) 455-1634


August 5, 1982

UNION CAMP
5115 Pinetree Street
Forest Park, GA 30050

ATTN: Mr. Guy Rasch

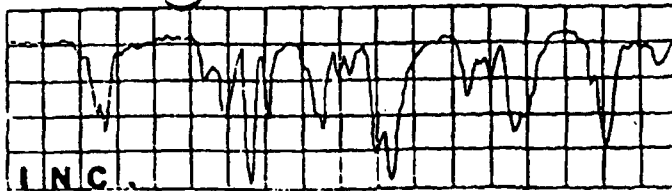
SUBJECT: Analysis Report EP Toxicity; 40 CFR 261.24; on Clayton
County Water.

SAMPLE	Hg	Pb	Ag	As	Cd	Cr	Ba	Se
Limit	0.2 ppm	5.0 ppm	5.0 ppm	5.0 ppm	1.0 ppm	5.0 ppm	100 ppm	1.0
Clayton County	0	1.60 ppm	0.01 ppm	0.69 ppm	0.20 ppm	0.20 ppm	0.55 ppm	0.05


Robert Levetan
Director

RL/pl

ADVANCED
ANALYTICAL
TECHNOLOGY



CHEMICAL AND BIOLOGICAL TESTING

5117 NEW PEACHTREE ROAD, SUITE 103
ATLANTA, GEORGIA 30341
(404) 455-1634

August 5, 1982

UNION CAMP
5115 Pinetree Street
Forest Park, GA 30050

ATTN: Mr. Guy Rasch

SUBJECT: Analysis Report EP Toxicity; 40 CFR 261.24; on Flexographic
Ink Wash.

SAMPLE	Hg	Pb	Ag	As	Cd	Cr	Ba	Se
Limit	0.2 ppm	5.0 ppm	5.0 ppm	5.0 ppm	1.0 ppm	5.0 ppm	100 ppm	1.0 ppm
Ink Wash	0.02 ppm	0.28 ppm	0.04 ppm	2.83 ppm	0.50 ppm	0.60 ppm	0.22 ppm	0.05 ppm

All metals pass EPA Limits

Robert Levetan
Director

RL/pl



JOE D. TANNER
Commissioner

Department of Natural Resources

ENVIRONMENTAL PROTECTION DIVISION

270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

J. LEONARD LEDBETTER
Division Director

October 7, 1982

Mr. M. F. Brennan
General Manager
Union Camp Corporation
5115 Pine Tree Street
Forest Park, GA 30050

RE: Request for Facility Status
Changes for Union Camp
Corporation, Forest Park,
GAD009538645

Dear Mr. Brennan:

This will acknowledge receipt of your request for withdrawal of your application for a Hazardous Waste Facility permit.

Based on the information provided, withdrawal of your application is warranted and your permit application has been placed in our inactive files. As requested, your status has been changed to a small quantity generator and your EPA Identification Number has been retained.

Please be advised that withdrawal of your permit application invalidates any variance that you received to continue existing hazardous waste treatment storage or disposal during the permit review process and that based on our concurrence with your withdrawal request, the Federal Environmental Protection Agency will terminate your facility's interim status.

Should you wish to treat, store, or dispose of hazardous waste in the future, it will be necessary that a hazardous waste handling permit be issued, prior to the construction of such facilities, under authority of Section 8 of the Georgia Hazardous Waste Management Act and paragraphs .10 and .11 of Georgia's Rules for Hazardous Waste Management, Chapter 391-3-11.

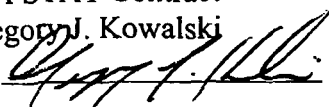
If further clarification is needed on this matter, please feel free to contact Mr. Robert Rose at 404/656-7802.

Sincerely,

John D. Taylor, Jr.
Program Manager
Industrial & Hazardous Waste
Management Program

JDT:rrk:l517C
cc: James H. Scarbrough
Moses N. McCall, III

Record of Telephone Conversation

Date: January 11, 2001 Time: 0845	UNION CAMP Forest Park, Clayton Co., Georgia EPA ID Number: GAD059538645
Organization: TN & Assoc., Inc., Reg. 4 EPA STAT Contract Name: Gregory J. Kowalski Signature: 	Contacted: Ms. Mary Crawford GA EPD Haz. Waste Mgt. Div. (Records) 4244 International Parkway Atlanta, Ga. 30354 404-656-2833
Subject: Current RCRA Permits	
<p>Spoke with Ms. Crawford regarding any RCRA permits that either Union Camp Corporation or International Paper might have with the State of Georgia for the Forest Park facility. Ms. Crawford searched under both names and explained that no RCRA permits were on file for either.</p>	
RESPONSE REQUIRED (x) None () Phone call () Memo () Letter () Report	
cc: (x) File (x) Project Manager () Principal Investigator () Other (specify)	



RCRIS Query Results

HANDLER ID: Equal To: **GAD059538645**

Results are based on data extracted on JUN-22-2000

Note: Click on the underlined CORPORATE LINK value for links to that company's environmental web pages. Click on the underlined MAPPING INFO value to obtain mapping information for the facility. Click on the underlined FACILITY ID value to view EPA Facility information for the facility.

[Go To Bottom Of The Page](#)

<u>HANDLER NAME:</u>	UNION CAMP CORPORATION	<u>HANDLER ID:</u>	GAD059538645
<u>STREET:</u>	5115 PINE TREE STREET	<u>FACILITY ID:</u>	GAD059538645
<u>CITY:</u>	FOREST PARK	<u>CORPORATE LINK:</u>	No
<u>STATE:</u>	GA	<u>COUNTY:</u>	CLAYTON
<u>ZIP CODE:</u>	30050	<u>MAPPING INFO:</u>	MAP
<u>EPA REGION:</u>	4		

Contact Information

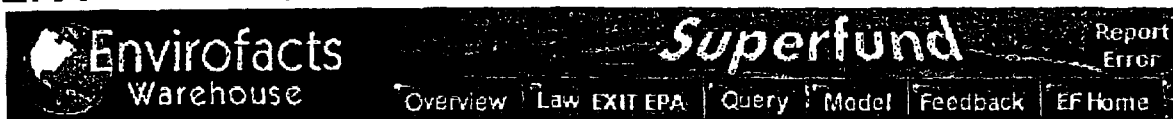
<u>Name</u>	<u>Street</u>	<u>City</u>	<u>State</u>	<u>ZIP Code</u>	<u>Phone</u>	<u>Type of Information</u>
BRENNAN M.F.	5115 PINE TREE STREET	FOREST PARK	GA	30050	(404) 366-9118	Part A Data - Core
HARRINGTON JACK	5115 PINE TREE STREET	FOREST PARK	GA	30050	(404) 366-9118	Notification Data - Core

Handler/Facility Classification

<u>Handler Type</u>	<u>Land Disposal</u>	<u>Incinerator</u>	<u>Boiler and/or Industrial Furnace</u>	<u>Storage and Treatment</u>
COND EXMPT SMALL QTY GENERATOR				

[Go To Top Of The Page](#)

Total Number of Facilities Displayed: 1



CERCLIS Query Results

Consolidated facility information (from multiple EPA systems) was searched to select facilities

EPA FACILITY ID: Beginning With: **GAD059538645**

Results are based on data extracted on NOV-21-2000

Note: Click on the underlined CORPORATE LINK value for links to that company's environmental web pages. Click on the underlined MAPPING INFO value to obtain mapping information for the facility. Click on the underlined RECORD OF DECISION value for a RODS Site Report. Click on the underlined FACILITY ID to view EPA Facility Information for this site.

[Go To Bottom Of The Page](#)

<u>SUPERFUND SITE ID:</u>	0401505	<u>SITE NAME:</u>	UNION CAMP CORP
<u>STREET ADDRESS:</u>	5115 PINE TREE ST	<u>EPA FACILITY ID:</u>	GAD059538645
<u>CITY NAME:</u>	FOREST PARK	<u>OWNERSHIP STATUS:</u>	Other
<u>STATE ABBR:</u>	GA	<u>FEDERAL FACILITY:</u>	N
<u>ZIP CODE:</u>	302972044	<u>NPL STATUS:</u>	Not on the NPL
<u>COUNTY NAME:</u>	CLAYTON	<u>SITE INCIDENT TYPE:</u>	
<u>CORPORATE LINK:</u>	No	<u>RECORD OF DECISION (ROD) INFO:</u>	No
<u>LATITUDE:</u>		<u>EPA REGIONAL LINK:</u>	No
<u>LONGITUDE:</u>		<u>MAPPING INFO:</u>	MAP
<u>SITE SMSA:</u>	0520		

Enforcement and Cleanup Actions

<u>Action</u>	<u>Action ID</u>	<u>Planned Start Date</u>	<u>Planned End Date</u>	<u>Actual Start Date</u>	<u>Actual End Date</u>	<u>Responsibility</u>	<u>Planned Outcome</u>	<u>Urgency</u>
<u>SITE INSPECTION</u>	001				08/15/1990	State, Fund Financed	Deferred to RCRA (Subtitle C)	
<u>PRELIMINARY ASSESSMENT</u>	001				12/30/1985	State, Fund Financed	Low	

DISCOVERY	001				08/01/1980	EPA Fund-Financed		
-----------	-----	--	--	--	------------	-------------------	--	--

Site Description

There were no Site Descriptions reported for this site.

[Go To Top Of The Page](#)

Total Number of Facilities Displayed: 1



Southeast Regional Climate

Center

Climatological Normals 1961-90

ATLANTA_WSO_AIRPORT , GA (090451)

Percent Missing: 0.00

< Choose Station >

Climatological Normals (1961-90)
 ATLANTA_WSO_AIRPORT , GA (090451) Percent Missing: 0.00

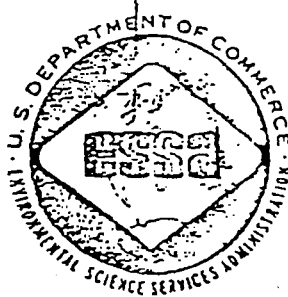
	MinTemp (F)	MaxTemp (F)	AvgTemp (F)	AvgPrcp (in)	AvgSnow (in)
Jan	31.5	50.4	41.0	4.75	0.9
Feb	34.5	55.1	44.8	4.81	0.6
Mar	42.4	64.2	53.3	5.77	0.4
Apr	50.1	72.7	61.4	4.26	0.0
May	58.6	79.6	69.1	4.29	0.0
Jun	66.2	85.7	76.0	3.56	0.0
Jul	69.5	87.9	78.7	5.01	0.0
Aug	69.0	87.0	78.0	3.66	0.0
Sep	63.5	81.7	72.6	3.42	0.0
Oct	51.8	72.7	62.3	3.05	0.0
Nov	42.8	63.4	53.1	3.86	0.1
Dec	35.0	54.0	44.5	4.33	0.2
Ann	51.2	71.2	61.2	50.77	2.3

Dave Barthel, barthel@water.dnr.state.sc.us



CLIMATIC ATLAS OF THE UNITED STATES

Environmental Science Services Administration . Environmental



U.S. DEPARTMENT OF COMMERCE

C. R. Smith, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Robert M. White, Administrator

ENVIRONMENTAL DATA SERVICE

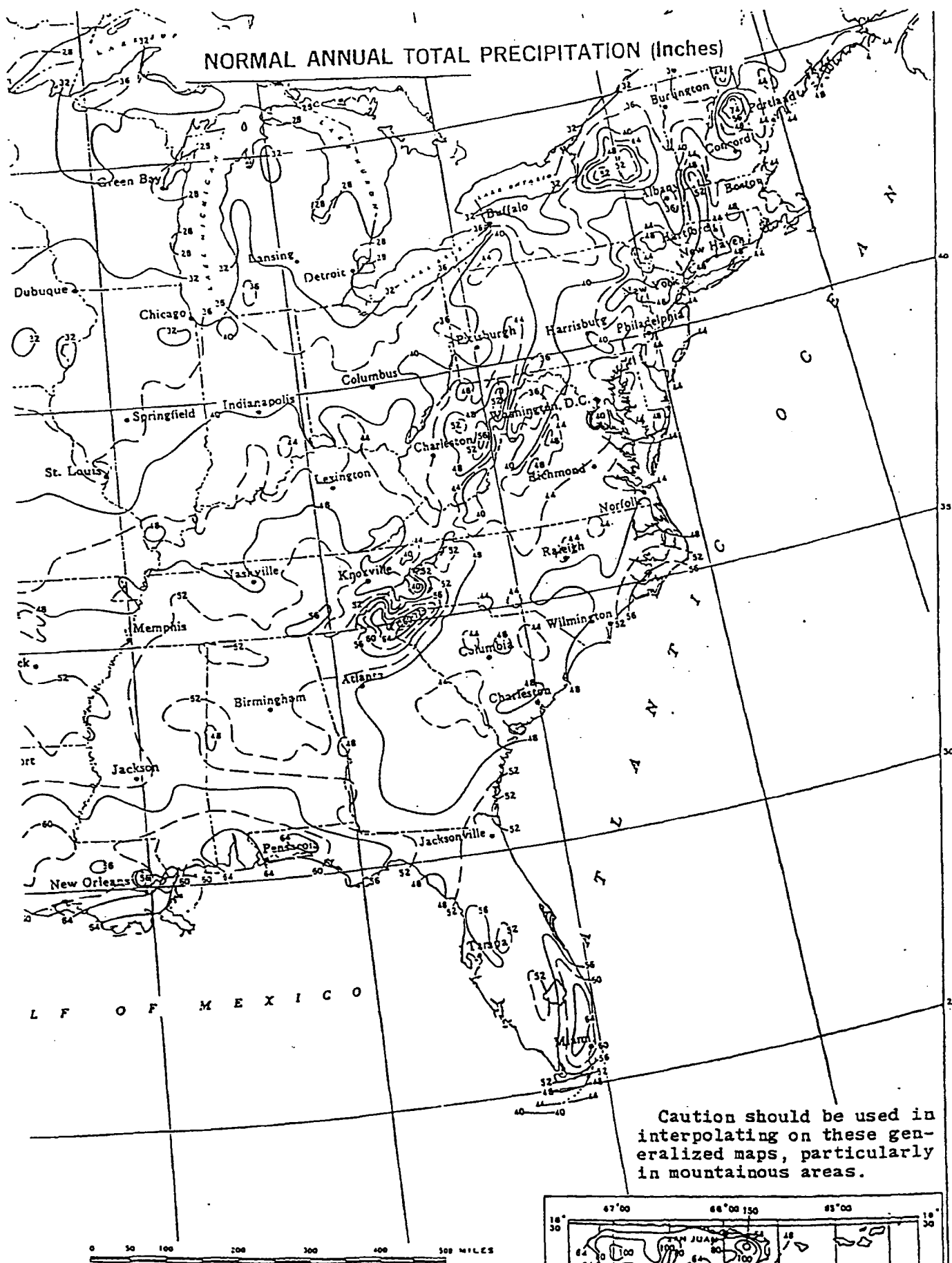
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JUNE 1968

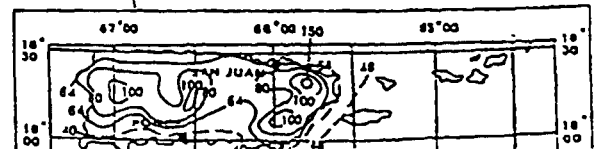
REPRINTED BY THE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1983



Caution should be used in interpolating on these generalized maps, particularly in mountainous areas.



MEAN ANNUAL LAKE EVAPORATION
(In Inches)

Based on period 1946-55

Plate 2

ALASKA

Based on period 1946-55

U.S. DEPARTMENT OF COMMERCE
J. EDGAR HOOVER, Secretary

Reference 15

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED
for Durations from 30 Minutes to 24 Hours and
Return Periods from 1 to 100 Years

Prepared by

DAVID M. HERSEFIELD

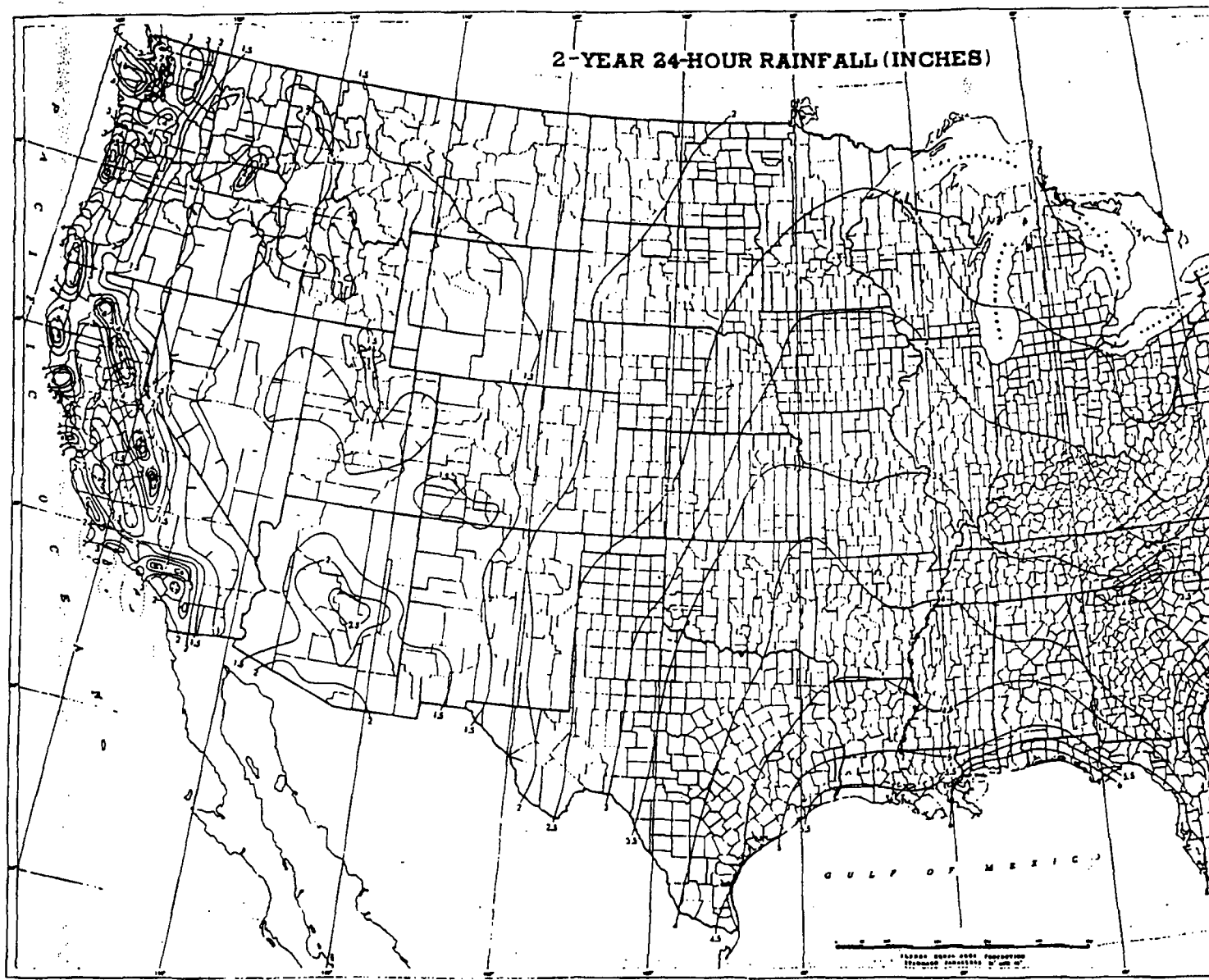
Cooperative Studies Section, Hydrologic Services Division

for

Engineering Division, Soil Conservation Service

U.S. Department of Agriculture





WMO 10-10-11

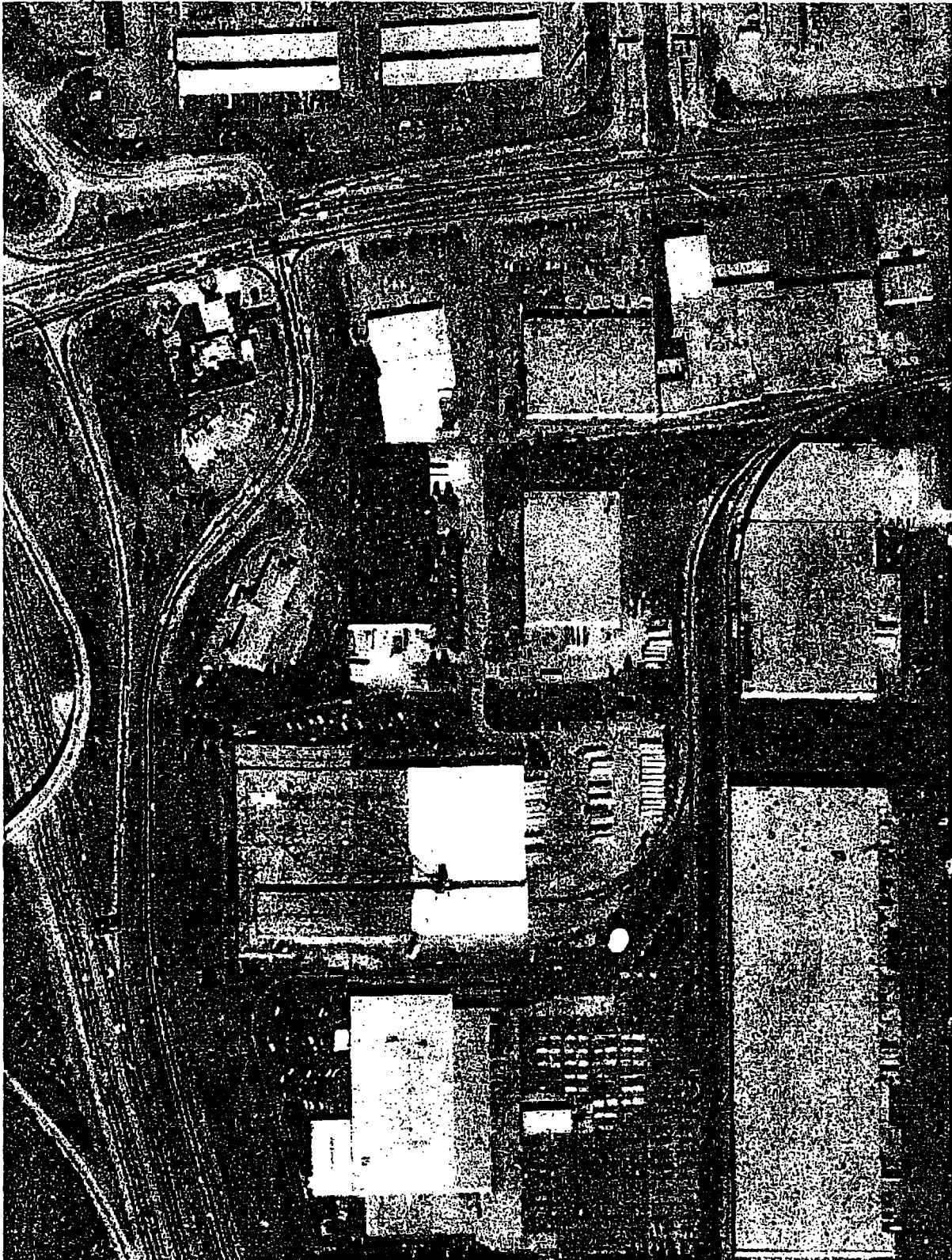
Reference 16

Microsoft TerraServer

Display Image

USGS Aerial Photograph

Atlanta, Georgia, United States 21 Dec 1994



0 100M

0 100yd

Microsoft TerraServer

Display Image

USGS Aerial Photograph

Atlanta, Georgia, United States 21 Dec 1994



0 1Km

0 1.5Mi

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10730177 Site ID: GA0003275450

Site Name: Union Camp Corp.

Nature of Material:

Map: ☒

Computer Disks: ☐

Photos: ☐

CD-ROM: ☐

Blueprints: ☐

Oversized Report: ☐

Slides: ☐

Log Book: ☐

Other (describe): Water Resources

Amount of material: _____

* Please contact the appropriate Records Center to view the material *


POPULATION WORKSHEET	
Union Camp Forest Park, GA	
GAD 059 538 645	
Population Radius	Population
0.25 Mile	0
0.50 Mile *	0
1 Mile	1481
2 Mile	17071
3 Mile	50330
4 Mile	95234
Population Ring**	
0 to 0.25 Mile	0
0.25 to 0.5 Mile	0
0.5 to 1 Mile	1481
1 to 2 Mile	15590
2 to 3 Mile	33259
3 to 4 Mile	44904

**Population rings were determined by subtracting out the previous area's value from the current population value.

* Although Landview identified a population value in this radius, review of aerial photographs failed to identify any residential areas (Ref. 16). Those values were added to the following 0.5 - 1 Mile radius.

Reference: LandView IV

Name: GREG KOWALSKI

Signature: 

TN&Associates, Inc.
840 Kennesaw Avenue, Suite 7
Marietta, GA 30060
(678) 355-5550

LandView 1990 Census Population Estimator

- Step 1: Enter Latitude and Longitude. The defaults are the current MARPLOT map values.
Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
Latitude	<input type="text" value="33"/>	<input type="text" value="37"/>	<input type="text" value="0"/>	<input checked="" type="radio"/> North <input type="radio"/> South	<input type="text" value="33.616680"/>
Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>

 Main Menu

Enter Radius miles

**Calculate
Population**

Clear all fields

**Refresh Lat/Long
from MARPLOT**

Print this screen

**Show this radius
on map**

Note: Population Statistics are not available for Virgin Islands, Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
Total population:	<input type="text" value="0"/>	White:	<input type="text" value="0"/>
Housing units:	<input type="text" value="0"/>	Black:	<input type="text" value="0"/>
Census Block count:	<input type="text" value="0"/>	Indian:	<input type="text" value="0"/>
Area within radius (sq. mi.):	<input type="text" value="0.196"/>	Asian:	<input type="text" value="0"/>
		Hispanic:	<input type="text" value="0"/>

LandView 1990 Census Population Estimator

- Step 1: Enter Latitude and Longitude. The defaults are the current MARPLOT map values.
Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
Latitude	<input type="text" value="33"/>	<input type="text" value="37"/>	<input type="text" value="0"/>	<input checked="" type="radio"/> North <input type="radio"/> South	<input type="text" value="33.616680"/>
Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>

Enter Radius miles



Main Menu

Note: Population Statistics are not available for Virgin Islands., Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
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Housing units:	<input type="text" value="41"/>	Black:	<input type="text" value="30"/>
Census Block count:	<input type="text" value="4"/>	Indian:	<input type="text" value="0"/>
Area within radius (sq. mi.):	<input type="text" value="0.785"/>	Asian:	<input type="text" value="1"/>
		Hispanic	<input type="text" value="9"/>

* SEE COVER PAGE

LandView 1990 Census Population Estimator

- Step 1: Enter Latitude and Longitude. The defaults are the current MARPLOT map values.
Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
Latitude	<input type="text" value="33"/>	<input type="text" value="37"/>	<input type="text" value="0"/>	<input checked="" type="radio"/> North <input type="radio"/> South	<input type="text" value="33.616680"/>
Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>



Main Menu

Enter Radius miles

Calculate
Population

Clear all fields

Refresh Lat/Long
from MARPLOT

Print this screen

Show this radius
on map

Note: Population Statistics are not available for Virgin Islands, Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
Total population:	<input type="text" value="1481"/>	White:	<input type="text" value="831"/>
Housing units:	<input type="text" value="690"/>	Black:	<input type="text" value="564"/>
Census Block count:	<input type="text" value="18"/>	Indian:	<input type="text" value="1"/>
Area within radius (sq. mi.):	<input type="text" value="3.142"/>	Asian:	<input type="text" value="17"/>
		Hispanic	<input type="text" value="82"/>

LandView 1990 Census Population Estimator

- Step 1: Enter Latitude and Longitude. The defaults are the current MARPLOT map values.
Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
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Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>



Main Menu

Enter Radius miles

Calculate
Population

Clear all fields

Refresh Lat/Long
from MARPLOT

Print this screen

Show this radius
on map

Note: Population Statistics are not available for Virgin Islands, Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
Total population:	<input type="text" value="17071"/>	White:	<input type="text" value="8745"/>
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LandView 1990 Census Population Estimator

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Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
Latitude	<input type="text" value="33"/>	<input type="text" value="37"/>	<input type="text" value="0"/>	<input checked="" type="radio"/> North <input type="radio"/> South	<input type="text" value="33.616680"/>
Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>



Main Menu

Enter Radius miles

Calculate
Population

Clear all fields

Refresh Lat/Long
from MARPLOT

Print this screen

Show this radius
on map

Note: Population Statistics are not available for Virgin Islands, Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
Total population:	<input type="text" value="50330"/>	White:	<input type="text" value="29661"/>
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LandView 1990 Census Population Estimator

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Or, you may enter your own values in Degrees/Minutes/Seconds, or Decimal Degrees.
- Step 2: If you entered the Latitude & Longitude, choose the appropriate Hemisphere.
The continental U.S. is North and West.
- Step 3: Enter the Radius.
- Step 4: Press the Calculate Population button.

	deg.	min.	sec.	hemisphere	decimal degrees
Latitude	<input type="text" value="33"/>	<input type="text" value="37"/>	<input type="text" value="0"/>	<input checked="" type="radio"/> North <input type="radio"/> South	<input type="text" value="33.616680"/>
Longitude	<input type="text" value="84"/>	<input type="text" value="23"/>	<input type="text" value="43"/>	<input checked="" type="radio"/> West <input type="radio"/> East	<input type="text" value="84.395370"/>



Main Menu

Enter Radius miles

Calculate
Population

Clear all fields

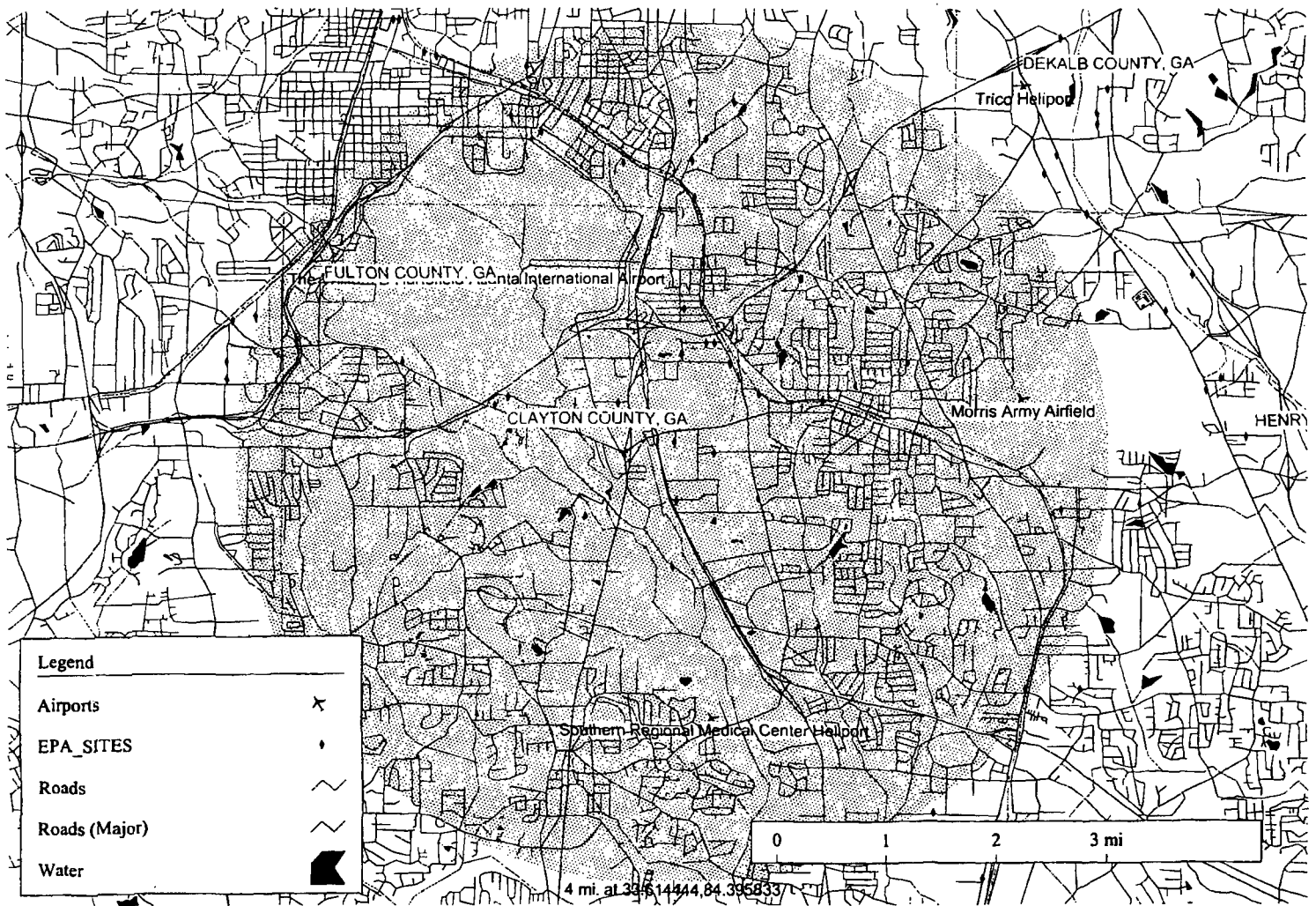
Refresh Lat/Long
from MARPLOT

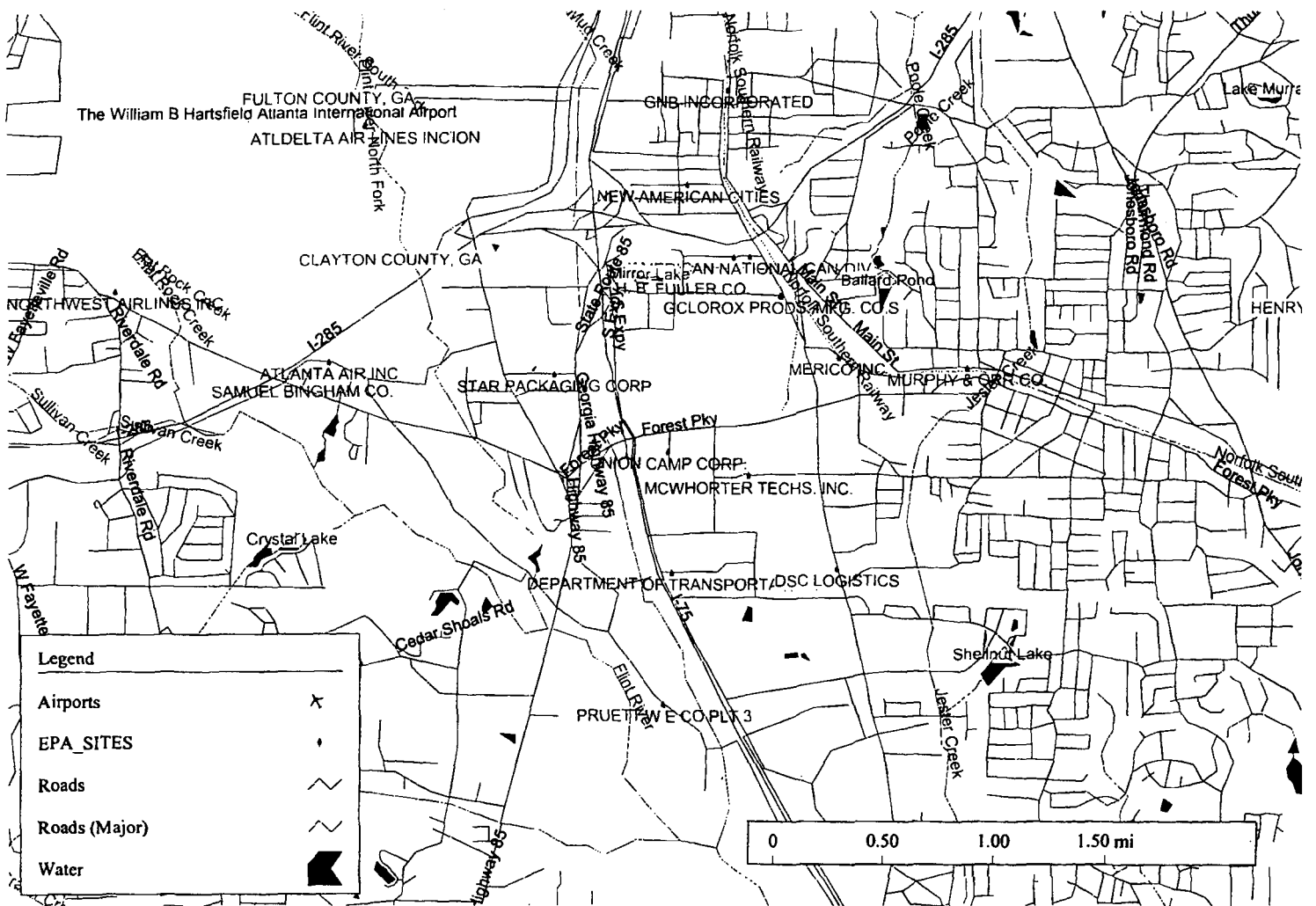
Print this screen

Show this radius
on map

Note: Population Statistics are not available for Virgin Islands, Guam, American Samoa, and N. Mariana Islands.
Race statistics are not available for Puerto Rico.

Results			
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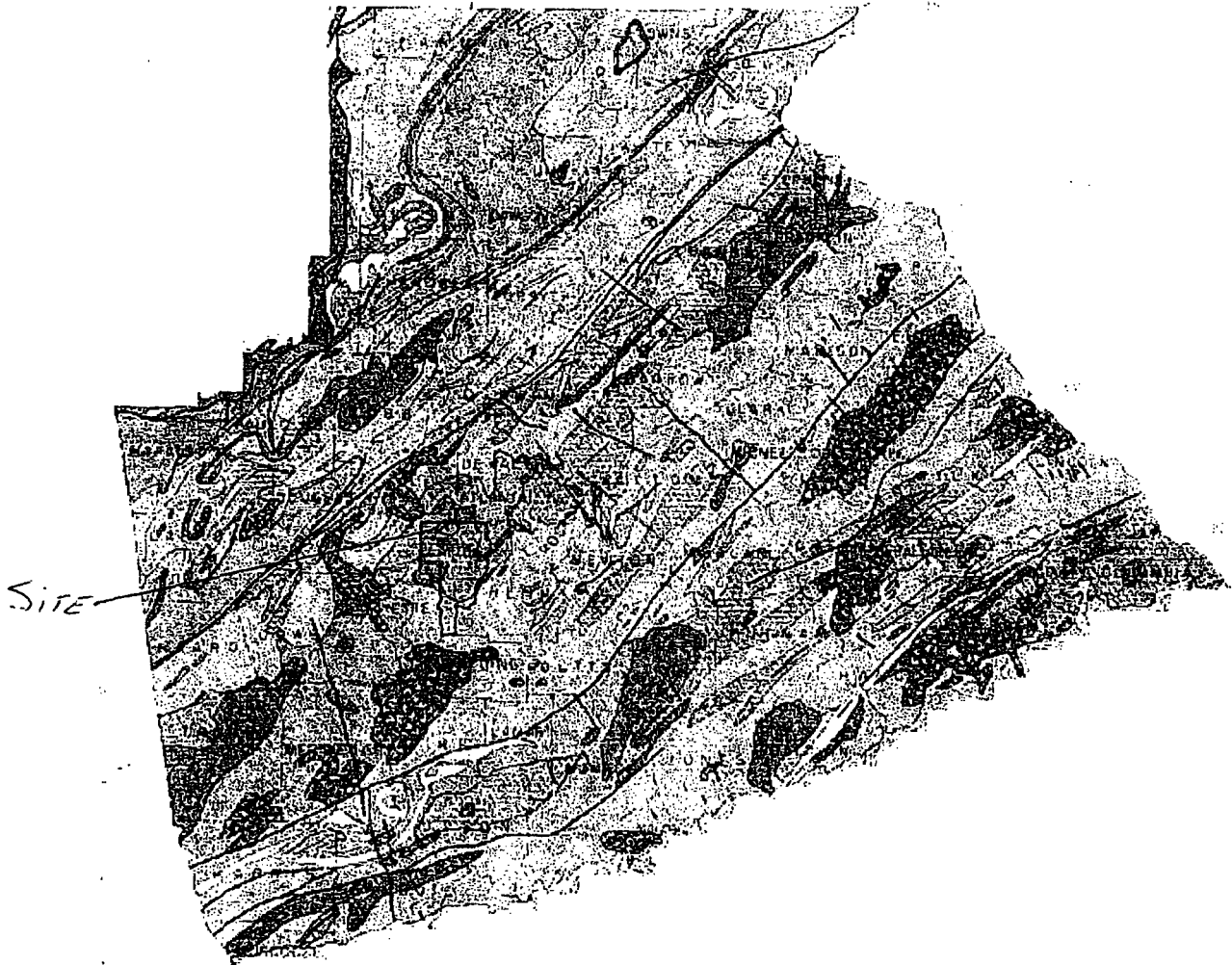




Geologic Map of Georgia -- Blue Ridge and Piedmont













Georgia Geologic Survey
1977

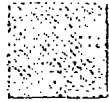
David E. Lawton



Blue Ridge and Piedmont Crystalline Rocks

(No stratigraphic order implied)

	GRANITE	Includes those units which are granitic in composition and texture and units of mixed lithology which are composed predominantly of granite.
* 	GRANITE GNEISS <i>CLAYTON COUNTY</i>	Includes all strongly banded metamorphic units of granitic composition whether of igneous or sedimentary origin.
	BIOTITE GNEISS	Includes units of metamorphic rock displaying gneissic banding, strong foliation, and relatively high biotite-mica content. Also includes those mixed lithologies which are predominantly biotite gneiss.
	QUARTZITES	Includes those units which are composed predominantly of metasandstone. Also mixed lithologies in which quartzite predominates.
	METAGRAYWACKE	Includes metagraywackes with lesser units of mica schist, quartzite, amphibolite and conglomerate.
	MICA SCHIST	Includes a wide variety of mica schists containing biotite and/or muscovite with lesser units of graphite schist, gneisses, and amphibolites.
	ALUMINOUS SCHISTS	Includes those mica schist units which contain a moderate to large percentage of aluminosilicate minerals such as garnet, kyanite, sillimanite, and staurolite. Also includes mixed lithologies in which the aluminous schists predominate.
	PELITIC AND CALCAREOUS ROCKS	Includes calcareous schists, metagraywackes, metaconglomerates, metasandstones, and marble.
	PHYLLITIC ROCKS	Includes meta-argillites, phyllites, graphitic phyllites and similar very fine-grained rocks of lower metamorphic grade.
	MAFIC GNEISS	Includes a wide variety of metamorphic rocks, (composed largely of iron-magnesium silicates) such as amphibolite, hornblende gneiss, and mafic hornfels. Also includes mixed lithologies composed predominantly of these rock types.
	SCHISTOSE MAFIC ROCKS	Includes schistose units composed predominantly of various mafic minerals including chlorite, tremolite, actinolite, and hornblende.
	ULTRAMAFIC-MAFIC ROCKS	Includes gabbros, serpentinites, diabase, and undifferentiated ultramafics. The generally northwest trending diabase dikes are indicated by thin green lines.



**METAVOLCANIC
ROCKS**

Includes metavolcanic rocks of mafic to felsic composition;
locally includes meta-argillites, phyllites, and schists.

Map and legend are reproduced from *Geologic Map of Georgia*, 1977 (1:2,000,000), compiled by David E. Lawton, available from Georgia Geologic Survey.

This map and the larger (1:500,000) 1976 *Geologic Map of Georgia* were compiled when the ideas of plate tectonics were relatively new and their implications for Georgia geology were not well understood. See [reading list](#) for more recent interpretations.

* The Piedmont

The Piedmont is a region of moderate-to-high-grade metamorphic rocks, such as schists, amphibolites, gneisses and migmatites, and igneous rocks like granite. Topographically, the Piedmont mostly consists of rolling hills, although faulting has produced the impressive ridge of Pine Mountain near Warm Springs. Isolated granitic plutons also rise above the Piedmont landscape to give prominent features like Stone Mountain.

One major feature cutting across the Piedmont (as defined here) is the Brevard Fault zone. The Brevard Fault Zone runs SW-NE and passes through Centralhatchee in Heard County, northwest Atlanta, Duluth, Buford, and Gainesville before leaving Georgia at the westernmost point on the Tugalo River in northernmost Stephens County. The Chattahoochee River follows the Brevard Zone too. However, the regional extent of the Brevard Zone is reflected by the fact that it is named after the town of Brevard, NC. The Brevard Zone has been interpreted as a variety of different kinds of faults or discontinuities, and its true nature remains enigmatic.

Piedmont soils are commonly a red color for which Georgia is famous. Those soils consist of khandite-group (kaolinite, halloysite, dickite) clays and of iron oxides. They result from the intense weathering of feldspar-rich igneous and metamorphic rocks. This intense weathering dissolves or alters nearly all minerals and leaves behind a residue of aluminum-bearing clays and iron-bearing iron oxides because of the low solubilities of aluminum and iron at earth-surface conditions. Those iron oxides give the red color to the clay-rich soil, yielding the red clay that has come to be almost synonymous with central Georgia, and the abundance of clay has contributed to a tradition of folk pottery in central and north Georgia.

Mineral resources of the Piedmont include hard crushed stone, which is quarried by such companies as Vulcan Materials. Granite has long been quarried for tombstones and other monuments in the eastern Piedmont near Elberton, and it was once quarried from the Stone Mountain granite at Stone Mountain Park. Soapstone was mined by Native Americans in southwestern Dekalb County at Soapstone Ridge. One well-known kyanite mine in the Piedmont was at Grave's Mountain. Groundwater in the Piedmont largely flows along faults and fractures, making it difficult to find but often locally abundant.

The granitic rocks of the Piedmont make radon a potential concern in the region. The USGS map of geologic radon potential shows the Piedmont, as well as the Blue Ridge, as a region of "moderate" radon potential, whereas that potential is "low" in the Valley and Ridge and Coastal Plain.

Athens and Atlanta are two cities in the Georgia Piedmont. The Piedmont extends a little bit westward into Alabama before it pinches out between the Valley and Ridge and the Coastal Plain. To the northeast, it cuts a broad swath across South Carolina, North Carolina, and Virginia. Spartanburg, SC, and Greensboro and Winston-Salem, NC, are Piedmont cities to the northeast of Georgia.

[illegible]

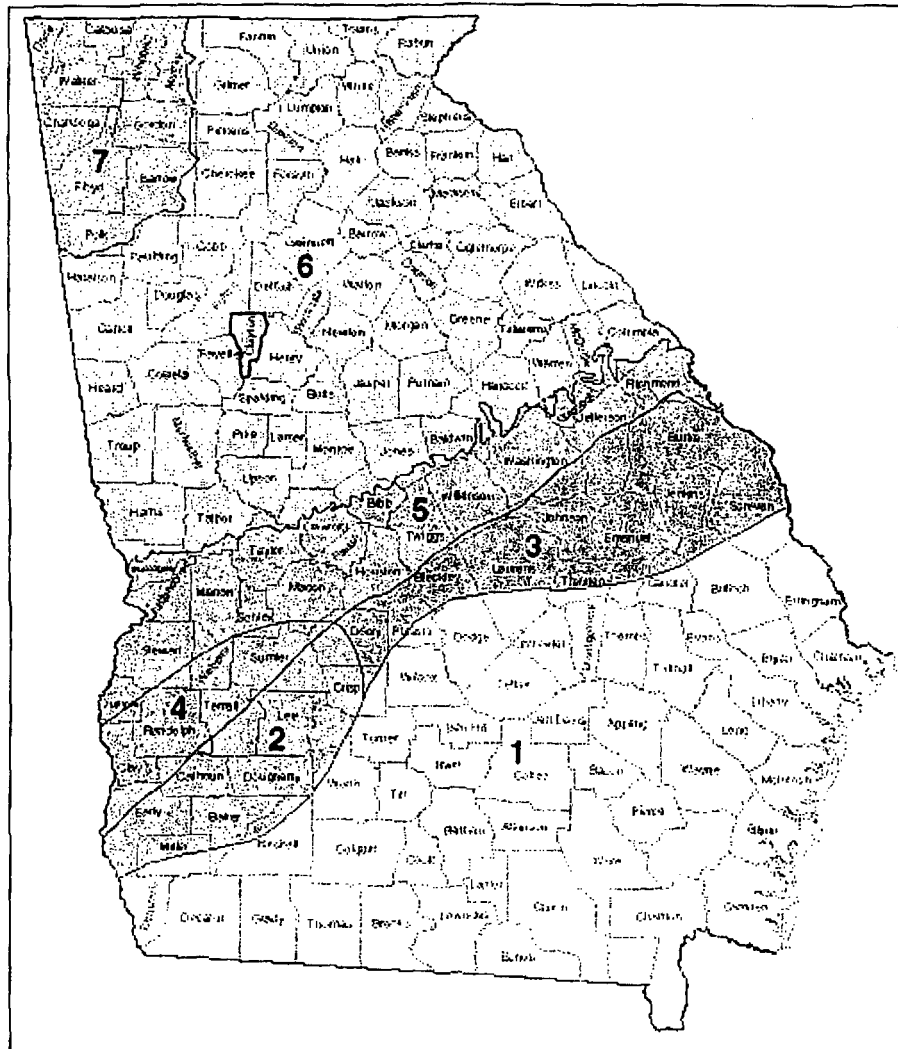
Size -



Reference 22

Ground-Water Conditions in Georgia, 1999

USGS Open-File Report 00-515



COASTAL PLAIN AQUIFERS

- 1** Floridan aquifer system and upper and lower Brunswick aquifers, undifferentiated
- 2** Floridan aquifer system, Claiborne, Clayton, and Providence aquifers
- 3** Floridan aquifer system, Gordon, and Cretaceous aquifers systems
- 4** Claiborne aquifer, Clayton aquifer, and Providence aquifer
- 5** Cretaceous aquifer systems

PIEDMONT AND BLUE RIDGE AQUIFERS

- 6** Crystalline-rock aquifers

VALLEY AND RIDGE AND APPALACHIAN PLATEAU AQUIFERS

- 7** Paleozoic-rock aquifers

(Surficial aquifers
occur throughout the
State)

Figure 1. Major aquifers in Georgia (modified from Peck and others, 1992.)

Back to Ground-Water Conditions in Georgia, 1999

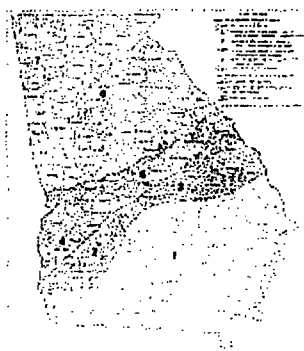
Last updated Monday, 26-Jun-2000 15:14:16 EDT
The URL for this page is <http://ga.water.usgs.gov/publications/ofr00-151/fig001.html>



Ground-Water Conditions in Georgia, 1999

USGS Open-File Report 00-515

GROUND-WATER RESOURCES



Contrasting geologic features and landforms of the physiographic provinces of Georgia (table 2, fig. 1) result in substantial differences in ground-water conditions from one part of the State to another. These features that make up the framework of the aquifers affect the quantity and quality of ground water throughout the State.

Surficial aquifers are present in each of the physiographic provinces. In the Piedmont, Blue Ridge, and Valley and Ridge Provinces (fig. 1), the surficial aquifers consist of soil, saprolite, stream alluvium, colluvium, and other surficial deposits. In the Coastal Plain Province, the surficial aquifers consist of intermixed layers of sand, clay, and limestone. The surficial aquifers usually are under water-table (unconfined) conditions and are used for domestic and livestock supplies. These aquifers are semiconfined locally in the coastal area.

In the Piedmont and Blue Ridge Provinces, rocks are complex and consist of structurally deformed metamorphic and igneous rocks. Ground water is transmitted through secondary openings along fractures, foliation, joints, contacts, or other features in the crystalline bedrock. In the Valley and Ridge Province, ground water is transmitted through both primary and secondary openings in folded and faulted sedimentary and metasedimentary rocks of Paleozoic age.

The most productive aquifers in Georgia are in the Coastal Plain Province in the southern part of the State. The Coastal Plain is underlain by alternating layers of sand, clay, dolomite, and limestone that dip and thicken to the southeast. Coastal Plain aquifers generally are confined except near their northern limits, where they crop out or are near land surface. Aquifers in the Coastal Plain include the upper and lower Brunswick aquifers, the Floridan aquifer system, the Claiborne aquifer, the Gordon aquifer, the Clayton aquifer, and the Cretaceous aquifers and aquifer systems.

Table 2. Aquifer and well characteristics in Georgia

[modified from Clarke and Pierce (1984) and Peck and others (1992); ft, feet; gal/min, gallons per minute]

Well characteristics					Remarks
Aquifer name and description	Depth (ft)		Yield (gal/min)		
	Common range	Common range	May exceed		

<u>Surficial aquifer:</u> Unconsolidated sediments; residuum, generally unconfined	11-72	2-25	25	Primary source of water for domestic and livestock supply in rural areas. Supplemental source of water in coastal Georgia.
<u>Upper and lower Brunswick aquifers:</u> Phosphatic and dolomitic quartz sand, generally confined	85-390	10-30	180	Not a major source of water in coastal Georgia, but considered a supplemental water supply to the Upper Floridan aquifer. Most wells are multi-aquifer, tapping the upper and lower Brunswick aquifers and the Upper Floridan aquifer. The lower Brunswick aquifer currently is not monitored (Clarke and others, 1990, p. 26-28).
<u>Floridan aquifer system:</u> Limestone, dolomite, and calcareous sand, generally confined	40-900	1,000-5,000	11,000	Supplies 50 percent of ground water in Georgia. The aquifer system is divided into the <u>Upper</u> and <u>Lower Floridan</u> aquifers. In the Brunswick area, the Upper Floridan aquifer includes two freshwater-bearing zones, the upper water-bearing zone and the lower water-bearing zone. The Lower Floridan aquifer is not considered a major aquifer. In the Brunswick area and in southeastern Georgia, the Lower Floridan aquifer includes the brackish-water zone, the deep freshwater zone, and the Fernandina permeable zone (Krause and Randolph, 1989). The Lower Floridan aquifer extends to more than 2,700 ft and yields high-chloride water below 2,300 ft (Jones and Maslia, 1994).
<u>Gordon aquifer system:</u> Sand and sandy limestone, generally confined	270-530	87-1,200	1,800	Major source of water for irrigation, industrial, and public-supply use in east-central Georgia.

<u>Claiborne aquifer:</u> Sand and sandy limestone, generally confined	20-450	150-600	1,500	Major source of water for irrigation, industrial, and public-supply use in southwestern Georgia.
<u>Clayton aquifer:</u> Limestone and sand, generally confined	40-800	250-600	2,150	Major source of water for irrigation, industrial, and public-supply use in southwestern Georgia.
<u>Cretaceous aquifers and aquifer systems:</u> Sand and gravel, generally confined	30-750	50-1,200	3,300	Major source of water in east-central Georgia. Supplies water for kaolin mining and processing. Includes the Providence aquifer in southwestern Georgia, and the Dublin, Midville, and Dublin-Midville aquifer systems in east-central Georgia.
<u>Paleozoic-rock aquifers:</u> Sandstone, limestone, and dolostone	15-2,100	1-50	3,500	Not laterally extensive. Limestone and dolostone aquifers are most productive. Storage is in regolith, primary openings, and secondary fractures and solution openings in rock. Springs in limestone and dolostone aquifers discharge at rates of as much as 5,000 gal/min. Sinkholes may form in areas of intensive pumping.
<u>Crystalline-rock aquifers:</u> Granite, gneiss, schist, and quartzite	40-600	1-25	500	Not laterally extensive. Storage is in regolith and fractures in rock. Hydrogeology of crystalline-rock aquifers is not well understood.

GROUND-WATER LEVELS

Short-term fluctuations and long-term trends in ground-water levels result from variations in recharge and discharge. Recharge varies in response to precipitation and surface-water infiltration into an aquifer. Discharge occurs as natural flow from an aquifer to streams and springs, as evapotranspiration, and as withdrawal from wells.

Discussions of ground-water levels in Georgia are grouped by aquifer and subdivided into areas and subareas in which wells have similar water-level fluctuations and trends.

Water-level fluctuations in 1999 are shown for 130 continuously monitored wells, which are considered to be representative of ground-water levels throughout the State. For each well, well-site information is listed, record high and low water levels for the period of record, monthly mean water

levels are shown in hydrographs for the period of record, daily mean water levels are shown in hydrographs for 1999, and monthly and annual water-level statistics (minimum, mean, and maximum daily mean water levels) are tabulated for 1999. Monthly statistics are not computed for months having less than 25 days of record. Extreme water levels for the period of record listed in the well-site information and tabulated water-level statistics are reported to the nearest 0.01 ft, reflecting the accuracy of the recorders used. Land-surface data generally are determined from the best available topographic map, and are accurate to about one-half the contour interval. Some land-surface data were determined by surveying methods or Global Positioning System (GPS) and are more accurate. In this report, an extreme water level refers to the lowest or highest daily mean water level for the period of record of a particular well. Thus, any instantaneous water-level measurement on a given day may be lower or higher than the extreme water level reported in the text, the daily mean water level shown on the hydrograph, or the minimum or maximum values tabulated.

Web version note: you may continue reading the text of this report by clicking on 'Next' below, or you may go directly to one of the lists to access the PDF file for one or more wells.



To download and view PDF files, you'll need the free Adobe Acrobat Reader software.

Observation wells for which hydrographs are included in this report:

- * [Listed by county \(Table 3a\)](#)
- * [Listed by aquifer \(Table 3b\)](#)
- * [Listed by well identification number \(Table 4\)](#)

[Back](#) | [Next](#)

[Recent USGS publications on Georgia or Georgia Water-Resources Information](#)

Last updated Monday, 26-Jun-2000 15:14:12 EDT

The URL for this page is <http://ga.water.usgs.gov/publications/ofr00-151/gwres.html>

IDENTIFICATION NUMBER.—10DD02.
 LOCATION.—Lat 33°42'07", long 84°25'48", Hydrologic Unit 03130002.
 SITE NAME.—U.S. Army, Fort McPherson.
 INSTRUMENTATION.—Electronic data recorder.
 AQUIFER.—Crystalline rock (biotite gneiss).
 WELL CHARACTERISTICS.—Drilled unused supply well, diameter 12 in., depth 338 ft, cased to 41 ft, open hole.
 DATUM.—Altitude of land-surface datum is 1,013 ft.
 REMARKS.—None.
 PERIOD OF RECORD.—November 1973 to current year. Continuous record since November 1973.
 EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.10 ft below land-surface datum, March 30, 1980;
 lowest, 10.95 ft below land-surface datum, September 2, 1988.

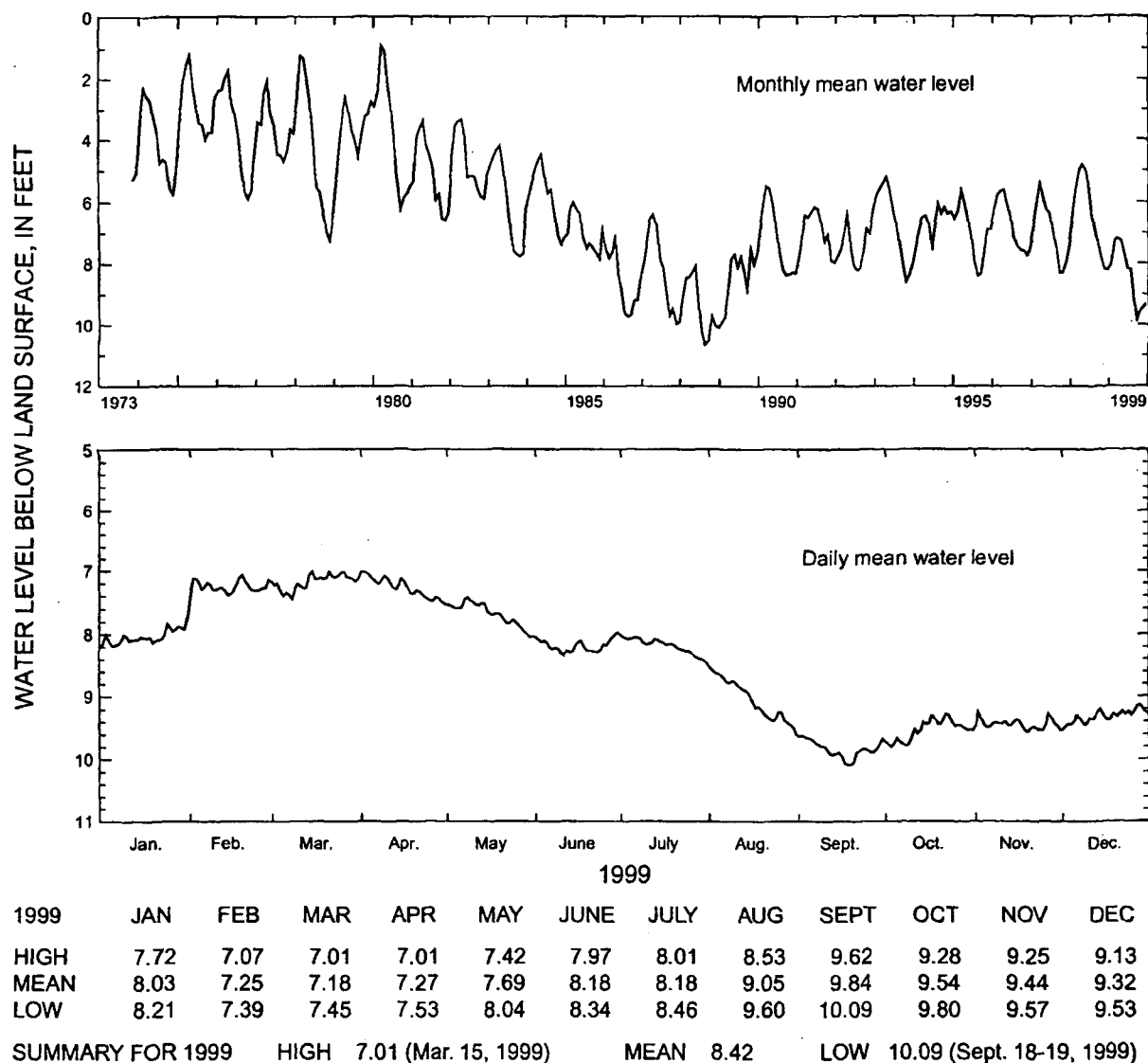


Figure 145. Water level in observation well 10DD02, Fulton County.



Safe Drinking Water Query Results

Page 1

Query Selections

State selected: GEORGIA

County selected: CLAYTON

Query executed on: JAN-10-2001

Results are based on data extracted on:

List of Water Systems in SDWIS

Water systems in GEORGIA are regulated by GEORGIA EPD DWP

For a detailed Violation and Enforcement History click on the underlined Water System ID. To obtain additional information about drinking water please call EPA's Safe Drinking Water hotline at 1-800-426-4791.

Community Water Systems: Water Systems that serve the same people year-round (e.g. in homes or businesses).

<u>Water System ID</u>	<u>Water System Name</u>	<u>Principal County Served</u>	<u>Population Served</u>	<u>Primary Water Source Type</u>
<u>GA0630000</u>	CLAYTON COUNTY WATER AUTHORITY	CLAYTON	134693	Surface water
<u>GA0630008</u>	CORINTH WOODS SUBDIVISION	CLAYTON	78	Ground water
<u>GA0630006</u>	DOUBLE E MOBILE HOME RANCH	CLAYTON	335	Purchased surface water
<u>GA0630001</u>	FOREST PARK	CLAYTON	17550	Purchased surface water
<u>GA0630002</u>	JONESBORO	CLAYTON	3635	Purchased surface water
<u>GA0630003</u>	RIVERDALE	CLAYTON	5252	Purchased surface water
<u>GA0630005</u>	ROYAL COURT MOBILE PARK	CLAYTON	141	Ground water

Non-Transient Non-Community Water Systems: Water Systems that serve the same people, but not year-round (e.g. schools that have their own water system).

<u>Water System ID</u>	<u>Water System Name</u>	<u>Principal County Served</u>	<u>Population Served</u>	<u>Primary Water Source Type</u>
GA0630009	FLORIDA ROCK INDUSTRIES INC.	CLAYTON	50	Ground water

Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations).

<u>Water System ID</u>	<u>Water System Name</u>	<u>Principal County Served</u>	<u>Population Served</u>	<u>Primary Water Source Type</u>
GA0630011	CAMP CALVIN	CLAYTON	40	Ground water
GA0630017	TARA BEACH RECREATION LAKE	CLAYTON	250	Ground water

CLAYTON 333129 33.52	GA0630000 CLAYTON COUNTY WATER AUTHORITY 841053 -84.18 10/13/1999	101 BIG COTTON INDIAN CREEK	INTAKE	SURFACE WATER
CLAYTON 10/13/1999	GA0630000 CLAYTON COUNTY WATER AUTHORITY	102 LITTLE COTTON INDIAN CREEK	INTAKE	SURFACE WATER
CLAYTON 10/13/1999	GA0630000 CLAYTON COUNTY WATER AUTHORITY	103 SHOAL CREEK RESERVOIR	INTAKE	SURFACE WATER
CLAYTON 10/13/1999	GA0630000 CLAYTON COUNTY WATER AUTHORITY	104 FLINT RIVER (TO SHOAL CREEK RES)	INTAKE	SURFACE WATE
CLAYTON 10/13/1999	GA0630000 CLAYTON COUNTY WATER AUTHORITY ACTIVE FULL TIME/REGULAR 10/13/1999	105 ATLANTA WATER SYS. GA1210001	PURCHASE CONNECTION	SUR
CLAYTON 10/13/1999	GA0630003 RIVERDALE	101 VALLEY HILL ROAD WELL #1	WELL	GROUNDWATER
CLAYTON 10/13/1999	GA0630003 RIVERDALE	102 DELTA DRIVE WELL #2	WELL	GROUNDWATER
CLAYTON 10/13/1999	GA0630003 RIVERDALE ACTIVE FULL TIME/REGULAR 10/13/1999	103 CLAYTON CO. WATER AUTH.	GA0630000	PURCHASE CONNE
ON TOPO → MAP	CLAYTON 332958 33.49	GA0630008 CORINTH WOODS SUBDIVISION 842504 -84.41 10/13/1999	101 WELL #1	WELL GROUNDWATER
	CLAYTON 332257 33.38	GA0630011 CAMP CALVIN 842203 -84.36 10/13/1999	101 WELL #1	WELL GROUNDWATER
	CLAYTON 332250 33.38	GA0630011 CAMP CALVIN 842146 -84.36 10/13/1999	102 WELL #2	WELL GROUNDWATER

```
<!--StartFragment-->CLAYTON      GA0630000 CLAYTON COUNTY WATER AUTHORITY      101 B
CLAYTON      GA0630000 CLAYTON COUNTY WATER AUTHORITY      102 LITTLE COTTON INDIAN
CLAYTON      GA0630000 CLAYTON COUNTY WATER AUTHORITY      103 SHOAL CREEK RESERVOIR
CLAYTON      GA0630000 CLAYTON COUNTY WATER AUTHORITY      104 FLINT RIVER (TO SHOAL
CLAYTON      GA0630000 CLAYTON COUNTY WATER AUTHORITY      105 ATLANTA WATER SYSTEM
CLAYTON      GA0630003 RIVERDALE      101 VALLEY HILL ROAD WELL
CLAYTON      GA0630003 RIVERDALE      102 DELTA DRIVE WELL #2
CLAYTON      GA0630003 RIVERDALE      103 CLAYTON COUNTY WATER
CLAYTON      GA0630008 CORINTH WOODS SUBDIVISION      101 WELL #1
CLAYTON      GA0630011 CAMP CALVIN      101 WELL #1
CLAYTON      GA0630011 CAMP CALVIN      102 WELL #2
<!--EndFragment-->
```

Reference 24

```

# US GEOLOGICAL SURVEY
# PEAK FLOW DATA
#
# Station name : Mud Creek (Lee'S Mill Rd) Nr Forest Park, Ga.
# Station number: 02344153
# latitude (ddmmss)..... 333550
# longitude (dddmmss)..... 0842327
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 4.5
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 837.1
# base discharge (cubic ft/sec).....
# Gage heights are given in feet above gage datum elevation.
# Discharge is listed in the table in cubic feet per second.
#
# Peak flow data were retrieved from the
# National Water Data Storage and Retrieval System (WATSTORE).
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names. The next line is a row of tab-delimited data type codes that
# describe the width and type of data in each column. All following lines
# are rows of tab-delimited data values.
#
# ----Water Years Retrieved----
# 1965 - 1968

```

Type	Station	Date	Discharge	DisQual	GageAtPeak	GageQual	Hic
1s	15s	10d	6n 12s	8n	4s 2s	10d 6n	4s
3	02344153		01/23/1965	470	C 4.60		
3	02344153		02/13/1966	940	C 6.40		
3	02344153		11/10/1966	920	C 6.45		
3	02344153		03/12/1968	980	C 6.55		

```

# US GEOLOGICAL SURVEY
# PEAK FLOW DATA
#
# Station name   : Flint River (Terrell Mill Rd) Nr Forest Pk, Ga.
# Station number: 02344136
# latitude (ddmmss)..... 333721
# longitude (ddmmss)..... 0842448
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 4.78
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 0
# base discharge (cubic ft/sec).....
# Gage heights are given in feet above gage datum elevation.
# Discharge is listed in the table in cubic feet per second.
#
# Peak flow data were retrieved from the
# National Water Data Storage and Retrieval System (WATSTORE).
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names. The next line is a row of tab-delimited data type codes that
# describe the width and type of data in each column. All following lines
# are rows of tab-delimited data values.
#
# ----Water Years Retrieved----
# 1965 - 1967

```

Type	Station	Date	Discharge	DisQual	GageAtPeak	GageQual	Hic			
1s	15s	10d	6n	12s	8n	4s	2s	10d	6n	4s
3	02344136		01/23/1965	800	C	884.50				
3	02344136		02/13/1966	1500	2C	885.90				

```

# US GEOLOGICAL SURVEY
# PEAK FLOW DATA
#
# Station name : Flint River (Ga Hwy 85) Near Forest Park, Ga.
# Station number: 02344143
# latitude (ddmmss)..... 333619
# longitude (ddmmss)..... 0842416
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 12
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 0
# base discharge (cubic ft/sec).....
# Gage heights are given in feet above gage datum elevation.
# Discharge is listed in the table in cubic feet per second.
#
# Peak flow data were retrieved from the
# National Water Data Storage and Retrieval System (WATSTORE).
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names. The next line is a row of tab-delimited data type codes that
# describe the width and type of data in each column. All following lines
# are rows of tab-delimited data values.
#
# ----Water Years Retrieved----
# 1965 - 1968

```

Type	Station	Date	Discharge	DisQual	GageAtPeak	GageQual	Hic
1s	15s	10d	6n 12s	8n	4s 2s	10d 6n	4s
3	02344143		01/23/1965	900	2C		
3	02344143		02/13/1966	1900	2C 853.20		
3	02344143		11/10/1966	2300	2C 853.80		
3	02344143		03/12/1968	2200	2C 853.70		

```

# US GEOLOGICAL SURVEY
# PEAK FLOW DATA
#
# Station name : Flint River (Valley Hill Rd) Nr Riverdale, Ga.
# Station number: 02344165
# latitude (ddmmss)..... 333328
# longitude (ddmmss)..... 0842310
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 23.5
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 0
# base discharge (cubic ft/sec).....
# Gage heights are given in feet above gage datum elevation.
# Discharge is listed in the table in cubic feet per second.
#
# Peak flow data were retrieved from the
# National Water Data Storage and Retrieval System (WATSTORE).
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names. The next line is a row of tab-delimited data type codes that
# describe the width and type of data in each column. All following lines
# are rows of tab-delimited data values.
#
# ----Water Years Retrieved----
# 1965 - 1968

```

Type	Station	Date	Discharge	DisQual	GageAtPeak	GageQual	Hic			
1s	15s	10d	6n	12s	8n	4s	2s	10d	6n	4s
3	02344165		01/23/1965	1250	2C	817.50				
3	02344165		02/13/1966	3700	2C	819.50				
3	02344165		11/10/1966	3200	2C	819.00				
3	02344165		03/12/1968	3200	2C					

```

# US GEOLOGICAL SURVEY
# PEAK FLOW DATA
#
# Station name : Flint River At St Rt 138 Near Jonesboro, Ga.
# Station number: 02344180
# latitude (ddmmss)..... 333214
# longitude (dddmmss)..... 0842235
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 39.3
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 0
# base discharge (cubic ft/sec).....
# Gage heights are given in feet above gage datum elevation.
# Discharge is listed in the table in cubic feet per second.
#
# Peak flow data were retrieved from the
# National Water Data Storage and Retrieval System (WATSTORE).
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names. The next line is a row of tab-delimited data type codes that
# describe the width and type of data in each column. All following lines
# are rows of tab-delimited data values.
#
# ----Water Years Retrieved----
# 1965 - 1968

```

Type	Station	Date	Discharge	DisQual	GageAtPeak	GageQual	High
1s	15s	10d	6n 12s	8n	4s 2s	10d 6n	4s
3	02344180		01/23/1965	2700	C 806.50		
3	02344180		02/13/1966	4500	C 807.50		
3	02344180		08/24/1967	2900	C 806.60		
3	02344180		03/12/1968	4700	C 807.60		

```

<!--StartFragment--># US GEOLOGICAL SURVEY
# DAILY MEAN DISCHARGE DATA
#
# Station name   : Flint River Near Lovejoy, Georgia
# Station number: 02344350
# latitude (ddmmss)..... 332456
# longitude (ddmmss)..... 0842305
# state code..... 13
# county..... Clayton
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 130
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 758.75
# base discharge (cubic ft/sec)..... 1300
# WATSTORE parameter code..... 00060
# WATSTORE statistic code..... 00003
# Discharge is listed in the table in cubic feet per second.
#
# Daily mean discharge data were retrieved from the
# National Water Information System files called ADAPS.
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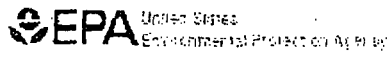
```

```

<!--StartFragment--># US GEOLOGICAL SURVEY
# DAILY MEAN DISCHARGE DATA
#
# Station name   : Flint River Near Griffin, Ga.
# Station number: 02344500
# latitude (ddmmss)..... 331439
# longitude (dddmmss)..... 0842545
# state code..... 13
# county..... Spaulding
# hydrologic unit code..... 03130005
# basin name..... Upper Flint
# drainage area (square miles)..... 272
# contributing drainage area (square miles).....
# gage datum (feet above NGVD)..... 711.44
# base discharge (cubic ft/sec)..... 2000
# WATSTORE parameter code..... 00060
# WATSTORE statistic code..... 00003
# Discharge is listed in the table in cubic feet per second.
#
# Daily mean discharge data were retrieved from the
# National Water Information System files called ADAPS.
#
# Format of table is as follows.
# Lines starting with the # character are comment lines describing the data
# included in this file. The next line is a row of tab-delimited column
# names that are Date and Discharge. The next line is a row of tab-delimited
# data type codes that describe a 10-character-wide date (10d) and an
# 8-character-wide numeric value for discharge (8n). All following lines are
# rows of tab-delimited data values of date (year.month.day) and discharge.
# A value of "E" or "e" in the Flags field indicates that the discharge for
# this day was estimated. Any other values shown in this field are irrelevant.
#
# NOTE this file was requested from the NWIS-W software package
# on Wed Jan 10 14:39:32 2001
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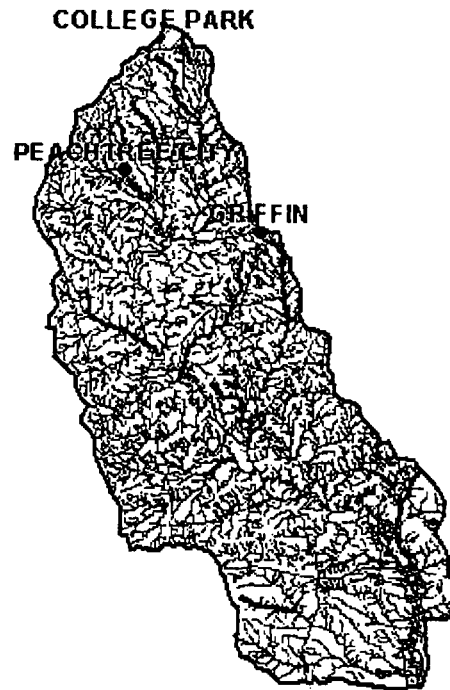
```

303(d) LISTED WATERS








303(d) | Watershed
lc

Upper Flint



Legend

- | | | | | | |
|---|---------------------------------------|--|----------------------|---|-----------------|
|  | CWA Section 303(d)
Impaired Waters |  | RF3 Hydrography |  | 8-digit USGS CU |
|  | City |  | Highway/Primary Road | | |

http://www.epa.gov/iwi/303d/03130005_303d.html

Listing state	ID	Waterbody	Parameter of Concern	Priority for TMDL development	Is the Waterbody Targeted for TMDL development before year A 2000
GA	GA-FL-BASIN_CREEK-6-1998	BASIN CREEK	BIOTA	3	No
GA	GA-FL-BEAVER_CREEK-11-1998	BEAVER CREEK	BIOTA DISSOLVED OXYGEN	2	No
GA	GA-FL-BELL_CREEK-4-1998	BELL CREEK	BIOTA FECAL COLIFORM	3	No
GA	GA-FL-BIG_LAZER-9-1998	BIG LAZER	FISH CONSUMPTION GUIDANCE	3	No
GA	GA-FL-CAMP_CREEK-4-b-1998	CAMP CREEK	DISSOLVED OXYGEN FECAL COLIFORM	2	No
GA	GA-FL-ELKINS_CREEK-11-1998	ELKINS CREEK	FECAL COLIFORM	3	No
GA	GA-FL-FIVE_MILE_CREEK-4-1998	FIVE MILE CREEK	BIOTA	3	No

GA	GA-FL-FLAT_CREEK-4-1998	FLAT CREEK	DISSOLVED OXYGEN	2	No
GA	GA-FL-GRACE_BRANCH-2- 1998	GRACE BRANCH	BIOTA	3	No
GA	GA-FL-HEADS_CREEK-2- 1998	HEADS CREEK	BIOTA	3	No
GA	GA-FL-LAKE_BENNETT- 1998	LAKE BENNETT	FISH CONSUMPTION GUIDANCE	3	No
GA	GA-FL-LEE_CREEK-1-1998	LEE CREEK	BIOTA	3	No
GA	GA-FL-LEWIS_CREEK-2- 1998	LEWIS CREEK	BIOTA	3	No
GA	GA-FL- MOCK_WOODALL_CREEK- 2-1998	MOCK WOODALL CREEK	BIOTA	3	No
GA	GA-FL-MUD_CREEK-5-1998	MUD CREEK	COPPER FECAL COLIFORM LEAD ZINC	1,2	No
GA	GA-FL-NORTH_BRANCH-4- 1998	NORTH BRANCH	BIOTA	3	No
GA	GA-FL-POTATO_CREEK-22- 1998	POTATO CREEK	BIOTA TOXICS	3,1	No

GA	GA-FL-RED_OAK_CREEK-1998	RED OAK CREEK	HABITAT	3	No
GA	GA-FL-SULLIVAN_CREEK-5-1998	SULLIVAN CREEK	FECAL COLIFORM	3	No
GA	GA-FL-TURKEY_CREEK-3-1998	TURKEY CREEK	BIOTA	3	No
GA	GA-FL-WHITewater_CREEK-6-1998	WHITewater CREEK	BIOTA	3	No
GA	GA-FL-WHITE_WATER_CREEK-1998	WHITE WATER CREEK	BIOTA	3	No
GA	GA-FL-WILLINGHAM_SPRING_CR-3-1998	WILLINGHAM SPRING CREEK	BIOTA	3	No

View or add additional State/Tribal information about this watershed.

These maps and data are EPA's best representation of information submitted by the states. For more pr contact Todd Dabolt at (202) 260-3697 or email [OWOW-Comments](#).

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[TEXT VERSION](#) | [SURF HOME](#)

http://www.epa.gov/iwi/303d/03130005_303d.html

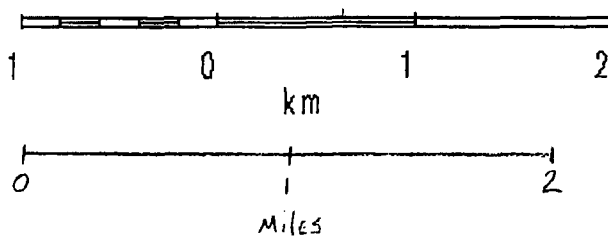
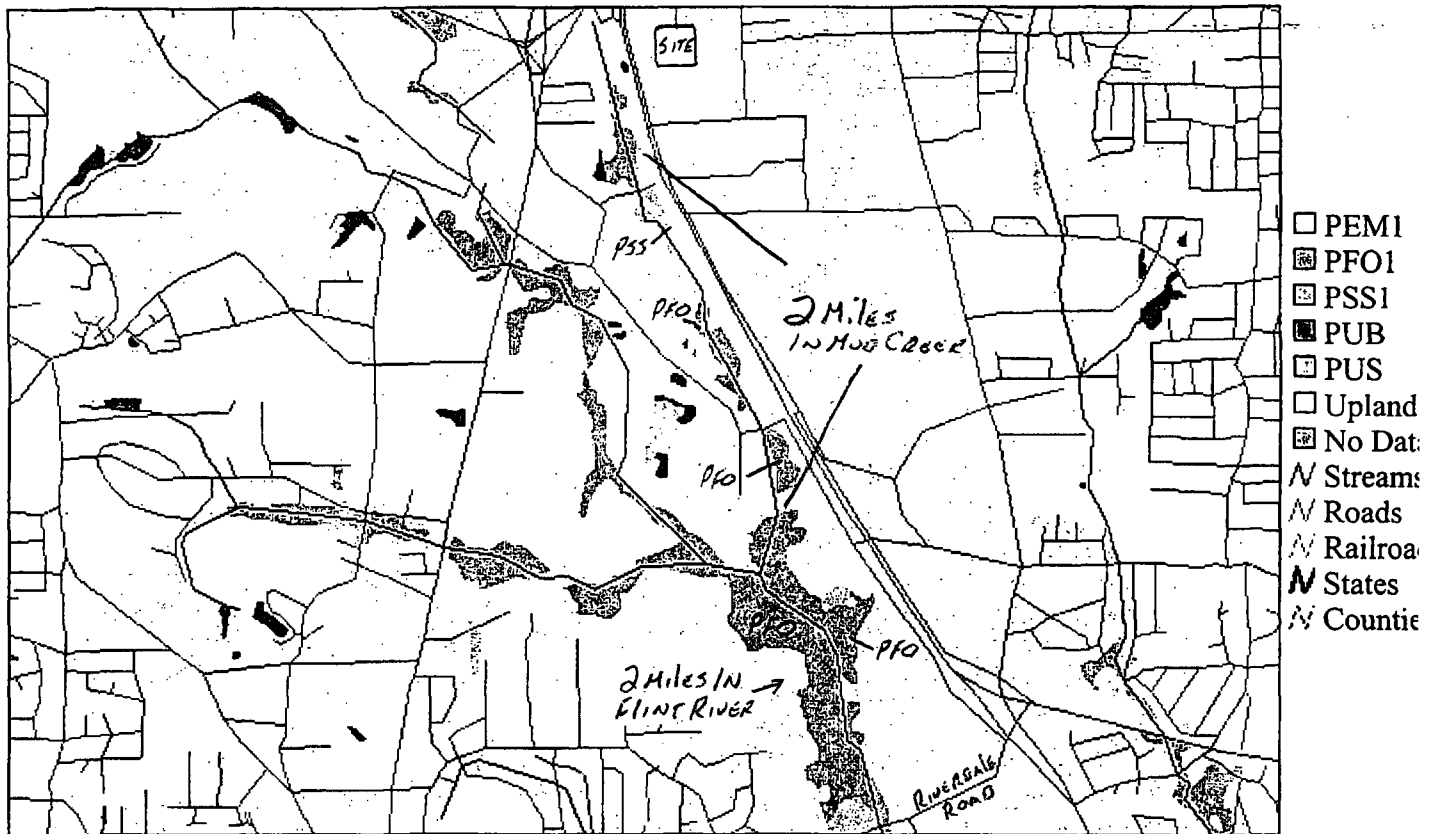
303(d) Listed Waters -- Upper Flint -- 03130005

Last Revised: //

URL: http://www.epa.gov/surf2/303d/03130005_305b.tml

http://www.epa.gov/iwi/303d/03130005_303d.html

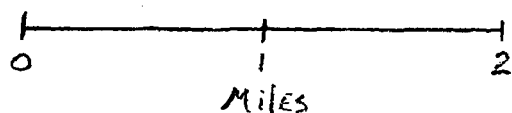
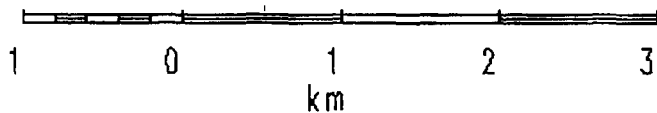
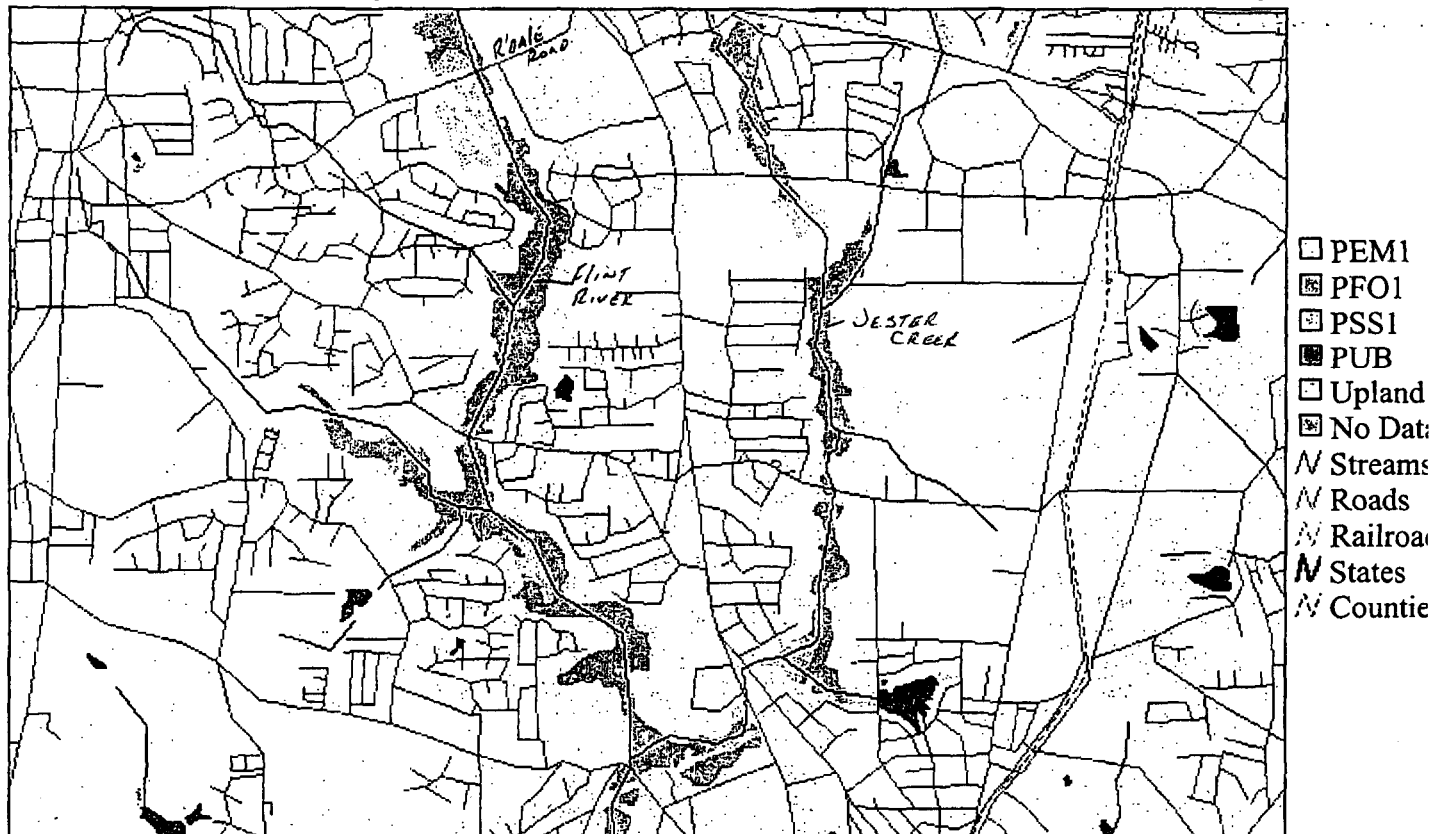
Wetland Data Provided by the U.S. Fish and Wildlife Service's National Wetland Inventory



MUD CREEK - 2 Miles Of Eligible Wetlands
 FLINT RIVER TO RIVERDALE ROAD - 2 Miles Of Eligible Wetlands

.../printmap.html?scratch=gg77953&legend=|rbgpoly_621-PEM1|rbgpoly_586-PFO1|rbgpoly_443-PSS1|rbgpoly

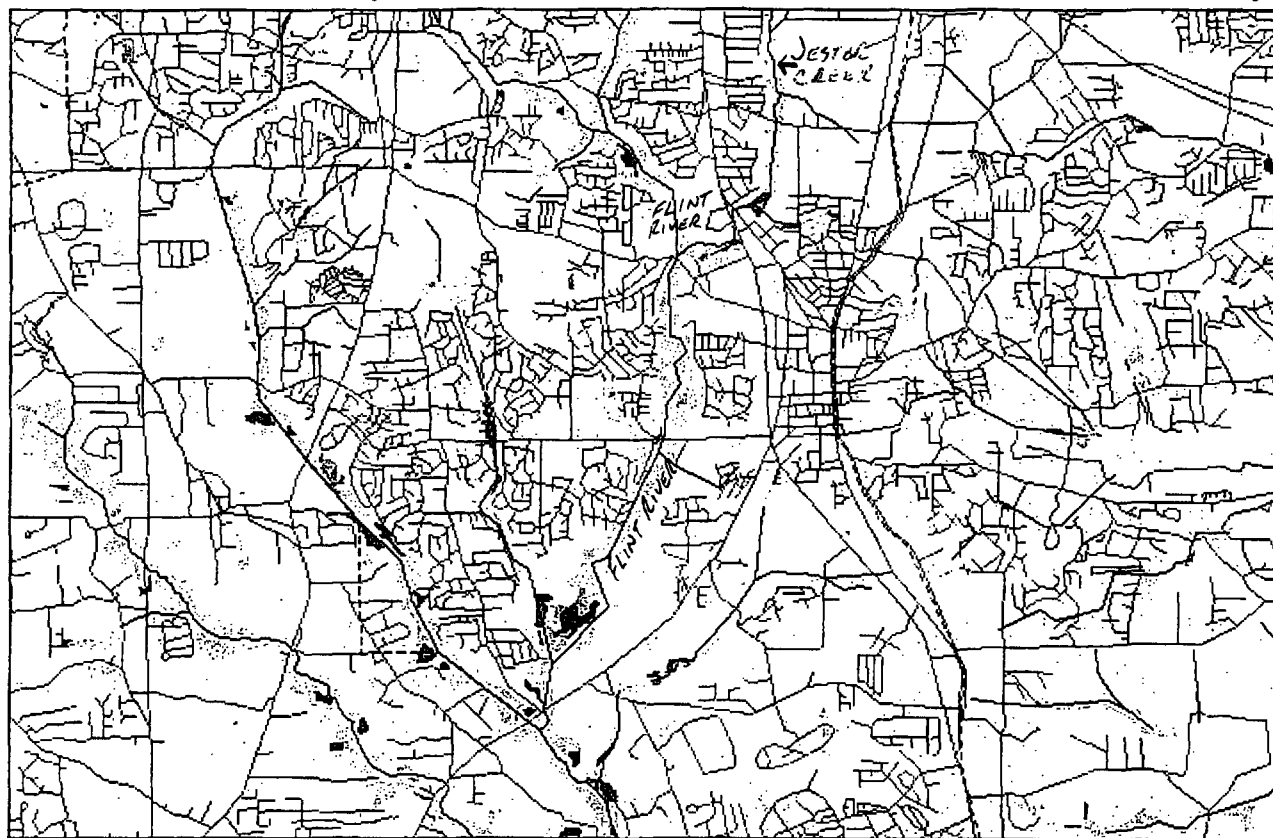
Wetland Data Provided by the U.S. Fish and Wildlife Service's National Wetland Inventory



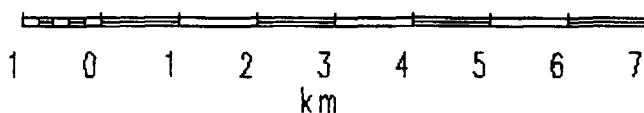
Flint River - 6 miles of Eligible Wetland
Above Jester Creek

.../printmap.html?scratch=gg42634&legend=|rgbpoly_621-PEM1|rgbpoly_586-PFO1|rgbpoly_443-PSS1|rgbpoly

Wetland Data Provided by the U.S. Fish and Wildlife Service's National Wetland Inventory



- L1UB
- PEM1
- PFO1
- PSS1
- PUB
- PUS
- R2UB
- Upland
- No Data
- ~ Streams
- ~ Roads
- ~ Railroads
- ~ States
- ~ Counties



.../printmap.html?scratch=gg48519&legend=|rbgpoly_621-L1UB|rbgpoly_586-PEM1|rbgpoly_443-PFO1|rbgpoly_444-PSS1|rbgpoly_445-PUB|rbgpoly_446-PUS|rbgpoly_447-R2UB|rbgpoly_448-Upland|rbgpoly_449-No Data|rbgpoly_450-Streams|rbgpoly_451-Roads|rbgpoly_452-Railroads|rbgpoly_453-States|rbgpoly_454-Counties

Reference 27



Known Locations of Rare and Other Special
Concern Animals, Plants and Natural Communities
in GNHP Database for:

CLAYTON COUNTY



Index of Georgia Counties

"US" indicates both U.S. protected and Georgia protected species

"GA" indicates Georgia protected species

List generated on: Tuesday October 31, 2000

Animals

- *Etheostoma swaini* Gulf Darter
- *Utterbackia peggyae* Florida Floater

Plants

- GA • *Cypripedium acaule* Pink Ladyslipper

Natural Communities

- No natural community records in GNHP database for Clayton County

Index of Georgia Counties

Georgia Natural Heritage Program

Nongame Wildlife & Natural Heritage Section

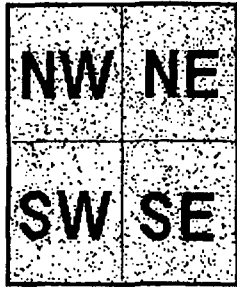
2117 US Hwy 278 SE
Social Circle, GA 30025
(770) 918-6411

[Georgia Natural Heritage Home Page](#)

Please send email questions concerning this data to: [Greg Krakow, GNHP Data Manager](#)

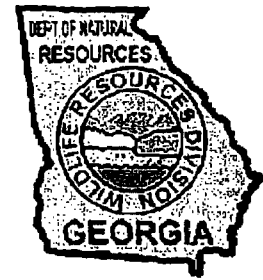
DISCLAIMER FOR ELEMENT OCCURRENCE DATABASE

Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species in a given area. Our files are updated constantly as new information is received. Thus, information provided by our program represents the existing data in our files on the date indicated on this Web page and should not be considered a final statement on the species or area under consideration.



J

**Georgia Natural Heritage Program
Database System**
Element Occurrences by Quarter Quad



Index of Quarter Quads
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

"US•" indicates both U.S. protected and Georgia protected species
"GA•" indicates Georgia protected species

List generated on: Tuesday October 24, 2000

Johnson Corner (NW)

GA• *Balduina atropurpurea* Purple Honeycomb Head

GA• *Sarracenia minor* Hooded Pitcherplant

Jonesboro (SW)

X

• *Etheostoma swaini* Gulf Darter

Jordan (NE)

GA• *Sarracenia flava* Yellow Flytrap

Riverdale (SE)



- *Etheostoma swaini* Gulf Darter
-

Roberta (SE)

GA• *Graptemys barbouri* Barbour's Map Turtle

Southeast Atlanta (SW)

GA• *Cypripedium acaule* Pink Ladyslipper LISTED AS UNUSUAL

Southwest Atlanta (NE)

GA• *Aimophila aestivalis* Bachman's Sparrow LISTED AS RARE

Southwest Atlanta (NW)

GA• *Aimophila aestivalis* Bachman's Sparrow

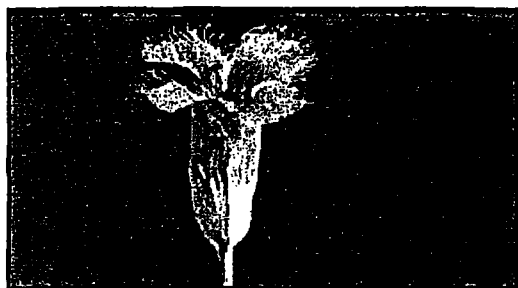
Southwest Atlanta (SE)

GA• *Aimophila aestivalis* Bachman's Sparrow

Southwest Atlanta (SW)

GA• *Aimophila aestivalis* Bachman's Sparrow

US• *Aster georgianus* Georgia Aster



Protected Plants of Georgia

Nongame Wildlife & Natural
Heritage Section

November 2000

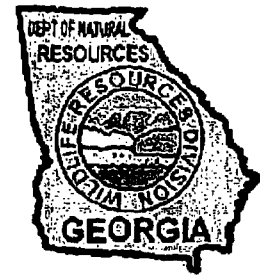


SCIENTIFIC NAME	COMMON NAME	STATE	FEDERAL
<i>Allium speculae</i>	Flatrock Onion	T	
<i>Amphianthus pusillus</i>	Pool Sprite, Snorkelwort	T	LT
<i>Arabis georgiana</i>	Georgia Rockcress	T	C
<i>Arnoglossum diversifolium</i>	Variable-leaf Indian-plantain	T	
<i>Asplenium heteroresiliens</i>	Wagner Spleenwort	T	
<i>Aster georgianus</i>	Georgia Aster		C
<i>Balduina atropurpurea</i>	Purple Honeycomb Head	R	
<i>Baptisia arachnifera</i>	Hairy Rattleweed	E	LE
<i>Calamintha ashei</i>	Ohoopie Dunes Wild Basil	T	
<i>Carex baltzellii</i>	Baltzell Sedge	E	
<i>Carex biltmoreana</i>	Biltmore Sedge	T	
<i>Carex dasycarpa</i>	Velvet Sedge	R	
<i>Carex manhartii</i>	Manhart Sedge	T	
<i>Carex misera</i>	Wretched Sedge	T	
<i>Carex purpurifera</i>	Purple Sedge	T	
<i>Ceratiola ericoides</i>	Rosemary	T	
<i>Chamaecyparis thyoides</i>	Atlantic White Cedar	R	
<i>Clematis socialis</i>	Alabama Leather Flower	E	LE
<i>Croomia pauciflora</i>	Croomia	T	
<i>Cuscuta harperi</i>	Harper Dodder	T	
<i>Cymophyllus fraserianus</i>	Fraser Sedge	T	
<i>Cypripedium acaule</i>	Pink Ladyslipper	U	
<i>Cypripedium calceolus var parviflorum</i>	Small-flowered Yellow Ladyslipper	U	
<i>Cypripedium calceolus var pubescens</i>	Large-flowered Yellow Ladyslipper	U	
<i>Draba aprica</i>	Open-ground Whitflow-grass	E	
<i>Echinacea laevigata</i>	Smooth Purple Coneflower	E	LE
<i>Elliottia racemosa</i>	Georgia Plume	T	
<i>Epidendrum conopseum</i>	Green-fly Orchid	U	
<i>Evolvulus sericeus var sericeus</i>	Creeping Morning-glory	E	
<i>Fimbristylis perpusilla</i>	Harper Fimbry	E	
<i>Fothergilla gardenii</i>	Dwarf Witch-alder	T	
<i>Gentianopsis crinita</i>	Fringed Gentian	T	
<i>Gymnoderma lineare</i>	Rock Gnome Lichen	E	LE



Protected Birds of Georgia

Nongame Wildlife & Natural
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November 2000



SCIENTIFIC NAME	COMMON NAME	STATE	FEDERAL
* <i>Aimophila aestivalis</i>	Bachman's Sparrow	R	
<i>Ammodramus maritimus</i>	Seaside Sparrow		(PS)
<i>Campephilus principalis</i>	Ivory-billed Woodpecker	E	LE
<i>Charadrius melodus</i>	Piping Plover	T	(LE,LT)
<i>Charadrius wilsonia</i>	Wilson's Plover	R	
<i>Corvus corax</i>	Common Raven	R	
<i>Dendroica kirtlandii</i>	Kirtland's Warbler	E	LE
<i>Elanoides forficatus</i>	Swallow-tailed Kite	R	
<i>Empidonax traillii</i>	Willow Flycatcher		(PS)
<i>Falco peregrinus</i>	Peregrine Falcon	E	
<i>Haematopus palliatus</i>	American Oystercatcher	R	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	E	(PS:LT,PDL)
<i>Himantopus mexicanus</i>	Black-necked Stilt		(PS)
<i>Mycteria americana</i>	Wood Stork	E	(PS:LE)
<i>Picoides borealis</i>	Red-cockaded Woodpecker	E	LE
<i>Rostrhamus sociabilis</i>	Snail Kite		(PS)
<i>Sterna antillarum</i>	Least Tern	R	(PS)
<i>Sterna dougallii</i>	Roseate Tern		(PS:LT,LE)
<i>Sterna nilotica</i>	Gull-billed Tern	T	
<i>Thryomanes bewickii</i>	Bewick's Wren	R	
<i>Vermivora bachmanii</i>	Bachman's Warbler	E	LE

* Explanation of legal statuses

* There are 21 birds on this list.

* More information on these species is available at [NatureServe](#) and on our [rare species lists](#).

* Other Links:

[Georgia Natural Heritage Program](#)
[Wildlife Resources Division](#)

* Send email concerning this list to [Greg Krakow](#), Data Manager, Georgia Natural Heritage Program.

STATE STATUS (Georgia Department of Natural Resources, GA-DNR)

The following abbreviations are used to indicate the status of state-protected plants and animals or those proposed for state-protection in Georgia.

E	Listed as endangered. A Species which is in danger of extinction throughout all or part of its range
T	Listed as threatened. A Species which is likely to become an endangered species in the foreseeable future throughout all or parts of its range.
R	Listed as rare. A species which may not be endangered or threatened but which should be protected because of its scarcity.
U	Listed as unusual (and thus deserving of special consideration). For example plants subject to commercial exploitation would have this status.

Georgia -- 65 listings

Animals -- 43

Status Listing

E	Acornshell, southern (<i>Epioblasma othcaloogensis</i>)
T(S/A)	Alligator, American (<i>Alligator mississippiensis</i>)
T	Bankclimber, purple (<i>Elliptoideus sloatianus</i>)
E	Bat, gray (<i>Myotis grisescens</i>)
E	Bat, Indiana (<i>Myotis sodalis</i>)
E	Clubshell, ovate (<i>Pleurobema perovatum</i>)
E	Clubshell, southern (<i>Pleurobema decisum</i>)
E	Combshell, upland (<i>Epioblasma metastriata</i>)
E	Darter, amber (<i>Percina antesella</i>)
T	Darter, Cherokee (<i>Etheostoma scotti</i>)
E	Darter, Etowah (<i>Etheostoma etowahae</i>)
T	Darter, goldline (<i>Percina aurolineata</i>)
T	Darter, snail (<i>Percina tanasi</i>)
T	Eagle, bald (lower 48 States) (<i>Haliaeetus leucocephalus</i>)
E	Kidneyshell, triangular (<i>Ptychobranhus greeni</i>)
E	Logperch, Conasauga (<i>Percina jenkinsi</i>)
E	Manatee, West Indian (<i>Trichechus manatus</i>)
T	Moccasinshell, Alabama (<i>Medionidus acutissimus</i>)
E	Moccasinshell, Coosa (<i>Medionidus parvulus</i>)
E	Moccasinshell, Gulf (<i>Medionidus penicillatus</i>)
E	Moccasinshell, Ochlockonee (<i>Medionidus simpsonianus</i>)
E	Pigtoe, oval (<i>Pleurobema pyriforme</i>)
E	Pigtoe, southern (<i>Pleurobema georgianum</i>)
T	Plover, piping (except Great Lakes watershed) (<i>Charadrius melodus</i>)
T	Pocketbook, finelined (<i>Lampsilis altilis</i>)
E	Pocketbook, shinyrayed (<i>Lampsilis subangulata</i>)
T	Salamander, flatwoods (<i>Ambystoma cingulatum</i>)
T	Sea turtle, green (except where endangered) (<i>Chelonia mydas</i>)
E	Sea turtle, hawksbill (<i>Eretmochelys imbricata</i>)
E	Sea turtle, Kemp's ridley (<i>Lepidochelys kempii</i>)
E	Sea turtle, leatherback (<i>Dermochelys coriacea</i>)
T	Sea turtle, loggerhead (<i>Caretta caretta</i>)
T	Shiner, blue (<i>Cyprinella caerulea</i>)
T	Snake, eastern indigo (<i>Drymarchon corais couperi</i>)
E	Stork, wood (AL, FL, GA, SC) (<i>Mycteria americana</i>)
E	Sturgeon, shortnose (<i>Acipenser brevirostrum</i>)
T	Tern, roseate (Western Hemisphere except NE U.S.) (<i>Sterna dougallii dougallii</i>)
E	Three-ridge, fat (<i>Amblema neislerii</i>)
T(S/A)	Turtle, bog (southern) (<i>Clemmys muhlenbergii</i>)
E	Whale, finback (<i>Balaenoptera physalus</i>)
E	Whale, humpback (<i>Megaptera novaeangliae</i>)
E	Whale, right (<i>Balaena glacialis</i>)

E Woodpecker, red-cockaded (*Picoides borealis*)

Plants -- 22

Status Listing

T Amphianthus, little (*Amphianthus pusillus*)
 E Rattleweed, hairy (*Baptisia arachnifera*)
 E Coneflower, smooth (*Echinacea laevigata*)
 T Pink, swamp (*Helonias bullata*)
 E Quillwort, black spored (*Isoetes melanospora*)
 E Quillwort, mat-forming (*Isoetes tegetiformans*)
 T Pogonia, small whorled (*Isotria medeoloides*)
 E Pondberry (*Lindera melissifolia*)
 T Button, Mohr's Barbara (*Marshallia mohrii*)
 E Dropwort, Canby's (*Oxypolis canbyi*)
 E Harperella (*Ptilimnium nodosum*)
 E Sumac, Michaux's (*Rhus michauxii*)
 T Water-plantain, Kral's (*Sagittaria secundifolia*)
 E Pitcher-plant, green (*Sarracenia oreophila*)
 E Chaffseed, American (*Schwalbea americana*)
 E Skullcap, large-flowered (*Scutellaria montana*)
 E Campion, fringed (*Silene polypetala*)
 T Spiraea, Virginia (*Spiraea virginiana*)
 E Torreya, Florida (*Torreya taxifolia*)
 E Trillium, persistent (*Trillium persistens*)
 E Trillium, relict (*Trillium reliquum*)
 E Grass, Tennessee yellow-eyed (*Xyris tennesseensis*)

✱

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10730177

Site ID: GAD059538645

Site Name: Union Camp Corp.

Nature of Material:

Map:

☒

Computer Disks:

☐

Photos:

☐

CD-ROM:

☐

Blueprints:

☐

Oversized Report:

☐

Slides:

☐

Log Book:

☐

Other (describe):

Reel-to-Reel Map

Amount of material:

* Please contact the appropriate Records Center to view the material *